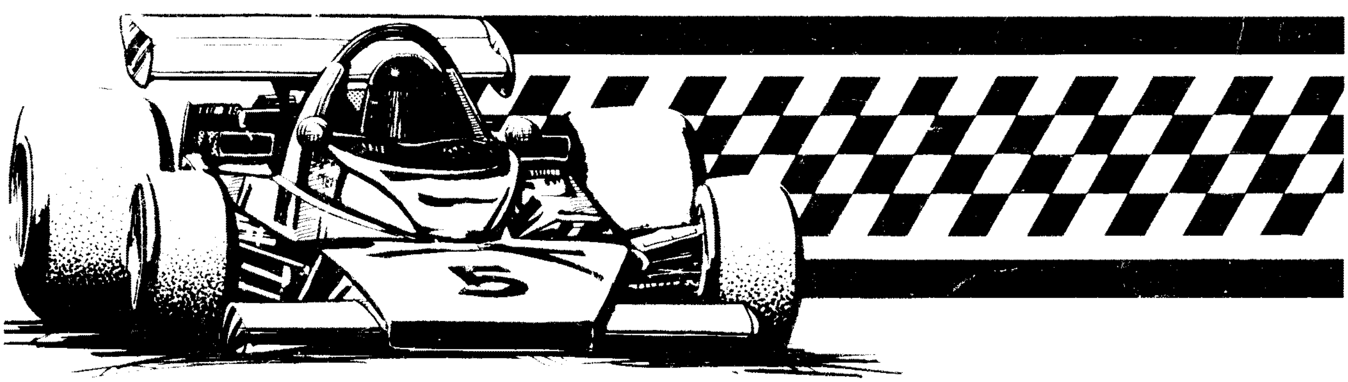
# GRAND CHAMPION™



TAITO



72-00012-001

# GRAND CHAMPION™ UPRIGHT

## TABLE OF CONTENTS

## 1. GAME SET-UP

### A. INTRODUCTION

"GRAND CHAMPION"™ Upright Driving game Manufactured by Taito America Corporation and designed for one or two players.

The object of the game is to avoid the opposing cars. The player has to drive through Dark Tunnels, Rain, Lightning, Sleet, Snow, and a Track that suddenly divides to get to the Finish Line first.

"GRAND CHAMPION"™ has a Radar Feature which enables the Player to see his position relative to the other cars.

A Rank Feature is also provided which shows the Players numerical rank all through the Race.

The Speech Feature enhances the game play.

### B. PRE-GAME INSTALLATION

"Grand Champion" ™ Upright game is shipped with the Dash Panel separate. To Install the Dash Panel follow the Instructions lists in Section 1 Cover Glass Removal & Dash Panel Installation.

### C. GAME INSPECTION

TAITO AMERICA'S CORPORATION'S "GRAND CHAMPION"™ Upright game is shipped with the Dash Panel separate. After completing the Installation of the Dash Panel (Section 1) a careful visual inspection should be made to insure your game is in perfect condition. Please verify the following before turning the game on.

* Check the exterior of the game for shipping damage, chips, dents and broken parts.
* Open the Service Door and examine the following:
  * Plug-in connectors to make sure they are firmly seated.
  * Speaker.
  * Player controls, Steering Wheel and Accelerator.
  * Printed circuit boards making sure there is no damage to the components.
  * Check for loose foreign objects, especially metal objects which may cause electrical problems.
  * Fuses, making sure they are firmly seated in the holders.
  * Coin Mechanisms

The Video Monitor is properly adjusted before shipping. If there are any adjustments necessary refer to our Video Monitor Manual (72-00003-001).

If problems occur or technical assistance is required, contact our Customer Service Department HOT LINE Toll Free 800-323-0666 (except Illinois). Illinois phone 312 981-1000 X215.

### POWER REQUIREMENTS

TAITO AMERICA CORPORATION'S "GRAND CHAMPION"™ Upright game is shipped ready for operation at 120VAC, 60Hz with a power consumption of approximately 250 Watts.

**CAUTION**

For safe operation it is recommended the cabinet be grounded. This game is equipped with a three conductor power cable. The third conductor is the ground conductor and when the cable is plugged into an appropriate receptable, the game is grounded. The offset pin on the power cable's three-prong connector is the ground connection.

**LOCATION SPACE REQUIREMENTS**

Depth - 35″ (87.5cm)
Width - 24″ (61cm)
Height - 68″ (171cm)
Weight - 300 lbs.
(Packaged Weight)

### D. GAME INSTALLATION

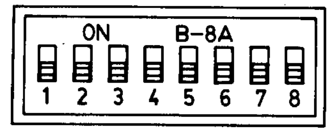
The following precautions should be followed when installing the game.

* Avoid rough handling of the game, the picture tube is fragile.
* Install the game on a level surface.
* Avoid installing the game where it may receive excessive sunlight or heat, to prevent the game from rising internal temperature.
* Do not install in a damp dusty location.
* For a short time after connecting the power to the game, the picture may be temporarily distorted.

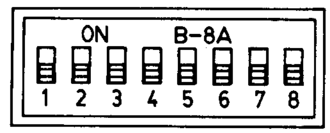
### E. OPTION SWITCHES AND VOLUME CONTROL SETTINGS

TAITO AMERICA CORPORATION'S "GRAND CHAMPION"™ Upright game provides the following option switches. See Figure 1 and 2. These Switches can be found on the CPU Board (88100).

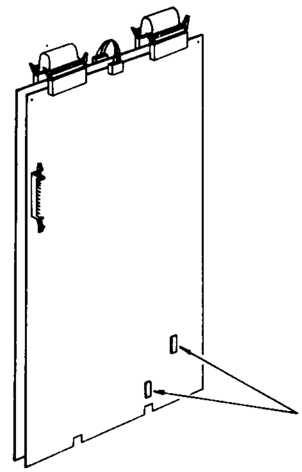
**SWITCH A**




**SWITCH B**




**OPTION SWITCHES FIGURE 1**



**OPTION SWITCH LOCATION FIGURE 2**

DIP SWITCH (A) is used for adjusting the play pricing listed below.

| PLAY PRICING | #1 COIN SLOT (LEFT) | | | | #2 COIN SLOT (RIGHT) | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 Coin - 1 Play | ON | ON | ON | ON | ON | ON | ON | ON |
| 1 Coin - 2 Plays | OFF | ON | ON | ON | OFF | ON | ON | ON |
| 1 Coin - 3 Plays | ON | OFF | ON | ON | ON | OFF | ON | ON |
| 1 Coin - 4 Plays | OFF | OFF | ON | ON | OFF | OFF | ON | ON |
| 1 Coin - 5 Plays | ON | ON | OFF | ON | ON | ON | OFF | ON |
| 1 Coin - 6 Plays | OFF | ON | OFF | ON | OFF | ON | OFF | ON |
| 1 Coin - 7 Plays | ON | OFF | OFF | ON | ON | OFF | OFF | ON |
| 1 Coin - 8 Plays | OFF | OFF | OFF | ON | OFF | OFF | OFF | ON |
| 2 Coins - 1 Play | ON | ON | ON | OFF | ON | ON | ON | OFF |
| 3 Coins - 1 Play | OFF | ON | ON | OFF | OFF | ON | ON | OFF |
| 4 Coins - 1 Play | ON | OFF | ON | OFF | ON | OFF | ON | OFF |
| 5 Coins - 1 Play | OFF | OFF | ON | OFF | OFF | OFF | ON | OFF |
| 6 Coins - 1 Play | ON | ON | OFF | OFF | ON | ON | OFF | OFF |
| 7 Coins - 1 Play | OFF | ON | OFF | OFF | OFF | OFF | OFF | ON |
| 8 Coins - 1 Play | ON | OFF | OFF | OFF | ON | OFF | OFF | OFF |
| 9 Coins - 1.Play | OFF | OFF | OFF | OFF | OFF | OFF | OFF | OFF |

**NOTE:** Two coin input signals from the above #1 and #2 coin slots will increase credits independetly. For instance, no credit is made, when each one coin is inserted into the above #1 and #2 coin slots in case of 2 coins - 1 Play setting.

DIP SWITCH B IS USED FOR THE FOLLOWING

Switches 1 and 2 are used for ranking for the next free play. If the player is ranked at the order shown in the right column, he is given an extra free race.

| RACE | SWITCHES 1 | 2 |
|---|---|---|
| 4th | ON | ON |
| 5th | OFF | ON |
| 6th | ON | OFF |
| 7th | OFF | OFF |

These Switches are factory set for the 5th race.

Switch 3 is not used and should remain in the OFF position.

Switch 4 is used for the RAM test.

| | |
|---|---|
| ON | No Test |
| OFF | Test |

Switch 5 is used for the COIN SYSTEM.

| | |
|---|---|
| 1 WAY | ON |
| 2 WAY | OFF |

Switch 6 is used for the display of "1981".

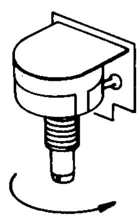
| | |
|---|---|
| DISPLAY | ON |
| NO DISPLAY | OFF |

Switch 7 is used for the Score Display.

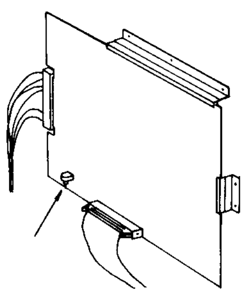
| | |
|---|---|
| NO DISPLAY | ON |
| DISPLAY | OFF |

## VOLUME CONTROL SETTING

The Volume Control Setting can be found on the CPU Board. Volume increases when the potentiometer is turned as indicated in Figure 3.



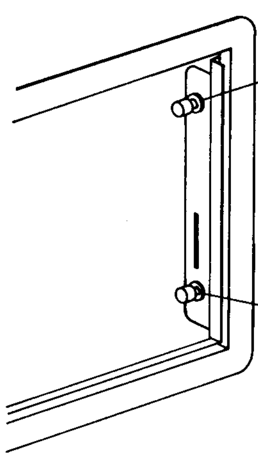
**VOLUME CONTROL FIGURE 3**



**VOLUME CONTROL LOCATION FIGURE 4**

## SERVICE SWITCH & HIGH SCORE RESET

The Service Switch & High Score Reset Switch is located on the Coin Door Frame.




**SERVICE SWITCH & HIGH SCORE RESET FIGURE 5**

## COVER GLASS REMOVAL & DASH PANEL INSTALLATION

To remove the Cover Glass the following steps should be followed.

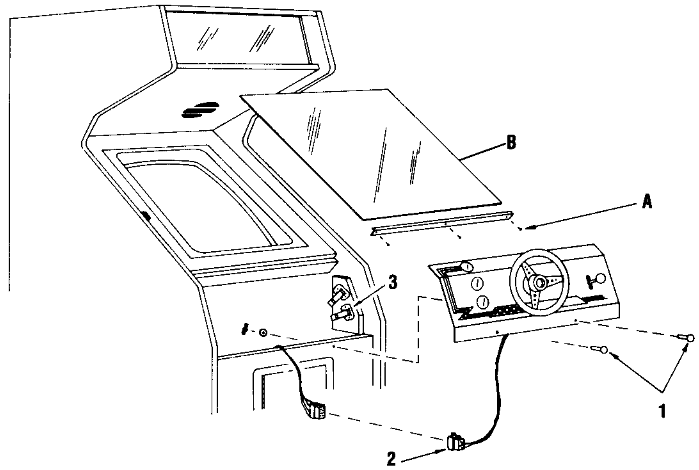
### Cover Glass

A. While holding the Cover Glass remove the three screws from the Cover Glass Bracket.
B. Remove the bracket and lift the glass outward.

### Dash Panel

To Install Dash Panel follow the steps listed below.

1. Remove two bolts from Dash Panel.
2. Disconnect Dash Panel Harness Connector.
3. Release clamps and lift panel out.




**COVER GLASS REMOVAL & DASH PANEL FIGURE 6**

## 2. MAINTENANCE

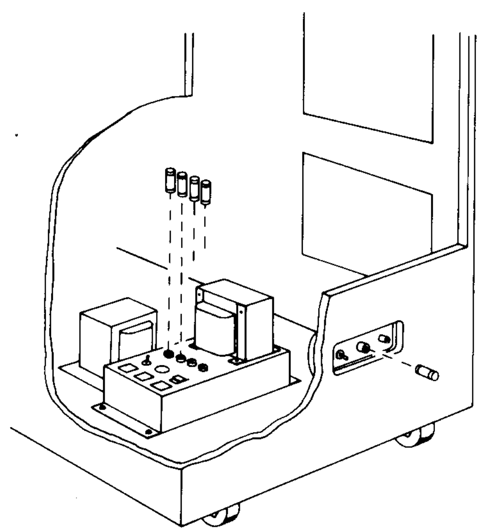
All games require a certain amount of maintenance to keep them in good condition. A periodic check of mechanical controls would be beneficial to guarantee your game will be profitable.

## A. CLEANING

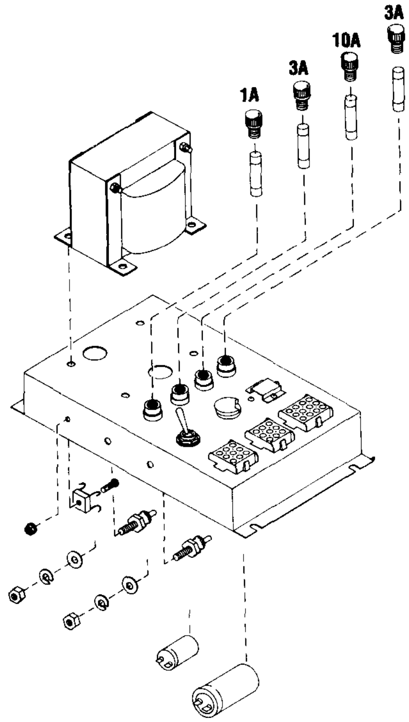
The exterior of the game, all metal parts and all plastic parts can be cleaned with an non-abrasive cleanser. Caution should be used when cleaning the plastic, a dry cloth can cause scratches and result in a foggy appearance.

## B. FUSE REPLACEMENT

This game uses 5 fuses, 4 are located on the Power Supply itself. See Figures 7 and 8 for fuse sizes and location.



**FUSE REPLACEMENT FIGURE 7**




**POWER SUPPLY FIGURE 8**

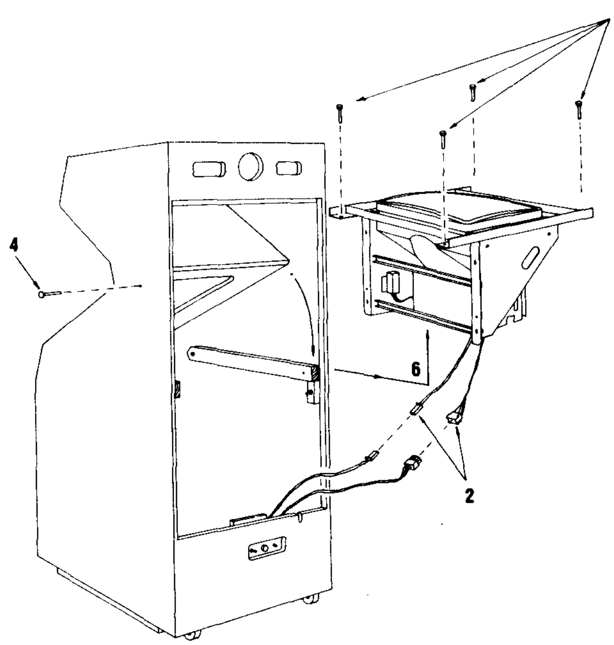
## C. VIDEO MONITOR REMOVAL

If you need to remove the Video Monitor, follow the instructions listed below:

> **CAUTION**
>
> It is recommended the game be left disconnected for at least one hour before removing the Video Monitor. This will probably discharge the Video Tube but EXTREME CAUTION is still necessary.

1. Disconnect power from the line voltage. (Not shown on Figure 9).
2. Disconnect the Monitor cable connector.
3. Remove the wire cable clamp. (Not shown on Figure 9).
4. Take out the two side bolts, one on each side of the cabinet.
5. Remove the (4) four mounting bolts and disconnect the green ground wire.
6. Slide the Monitor out by pulling the monitor toward you.

> **CAUTION**
>
> Use EXTREME CAUTION and do not touch electrical parts of the Monitor Yoke area with your hands or with any metal object in your hands! High voltages may exist in any Monitor, even with power disconnected.




**VIDEO MONITOR REMOVAL FIGURE 9**

The Monitors purity is affected by the earth's magnetic field, causing a variation of color. By turning the game ON for 10 or 15 seconds and OFF for 20 to 30 minutes the automatic degaussing circuit applies as degaussing field around the edges of the monitor, doing this several times will correct the problem.

Another way to correct this problem is to purchase a bulk tape eraser at any Electronic Store, this will help to immediately demagnetize the Video Tube.

If you move the game to another location after degaussing the problem may reappear. Refer to Monitor Manual (72-00003-001) for further details.

## D. VIDEO MONITOR ADJUSTMENTS

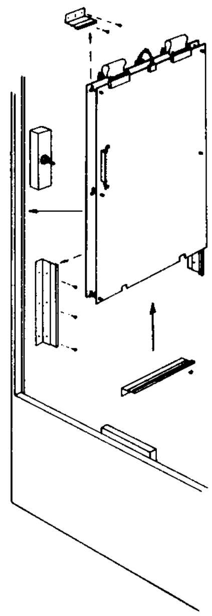
TAITO AMERICA CORPORATION presently uses either a Wells-Gardner Corporation or Electrohome 19" color Video Monitor in the "GRAND CHAMPION"™ upright game. Refer to the Monitor Manual (72-00003-001) for your specific Video Monitor. Be sure to heed all the WARNINGS and CAUTION INSTRUCTIONS provided before repairing or replacing your Video Monitor.

## E. FLUORESCENT TUBE REPLACEMENT

> **CAUTION**
>
> If you drop a fluorescent tube and it breaks, it will EXPLODE! PLEASE USE CARE WHEN REPLACING.

* Remove the three screws from the Marquee bracket, being sure to hold the glass while removing the screws.
* Remove the Marquee Glass and the fluorescent bulb is accessible.
* With both hands turn the bulb toward you, carefully pull the lamp out of the lamp socket.

## F. PRINTED CIRCUIT BOARD REPLACEMENT



**PRINTED CIRCUIT BOARD MOUNTING ASSEMBLY FIGURE 10**

Remove side & top Mounting bracket. Remove boards by pushing back & up to slide the board set out.

**WARNING**

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the Instruction Manual, may cause interference to radio communications. As temporarily permitted by Regulation it has not been tested for compliance pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

# CABINET ASSEMBLY (FRONT VIEW)

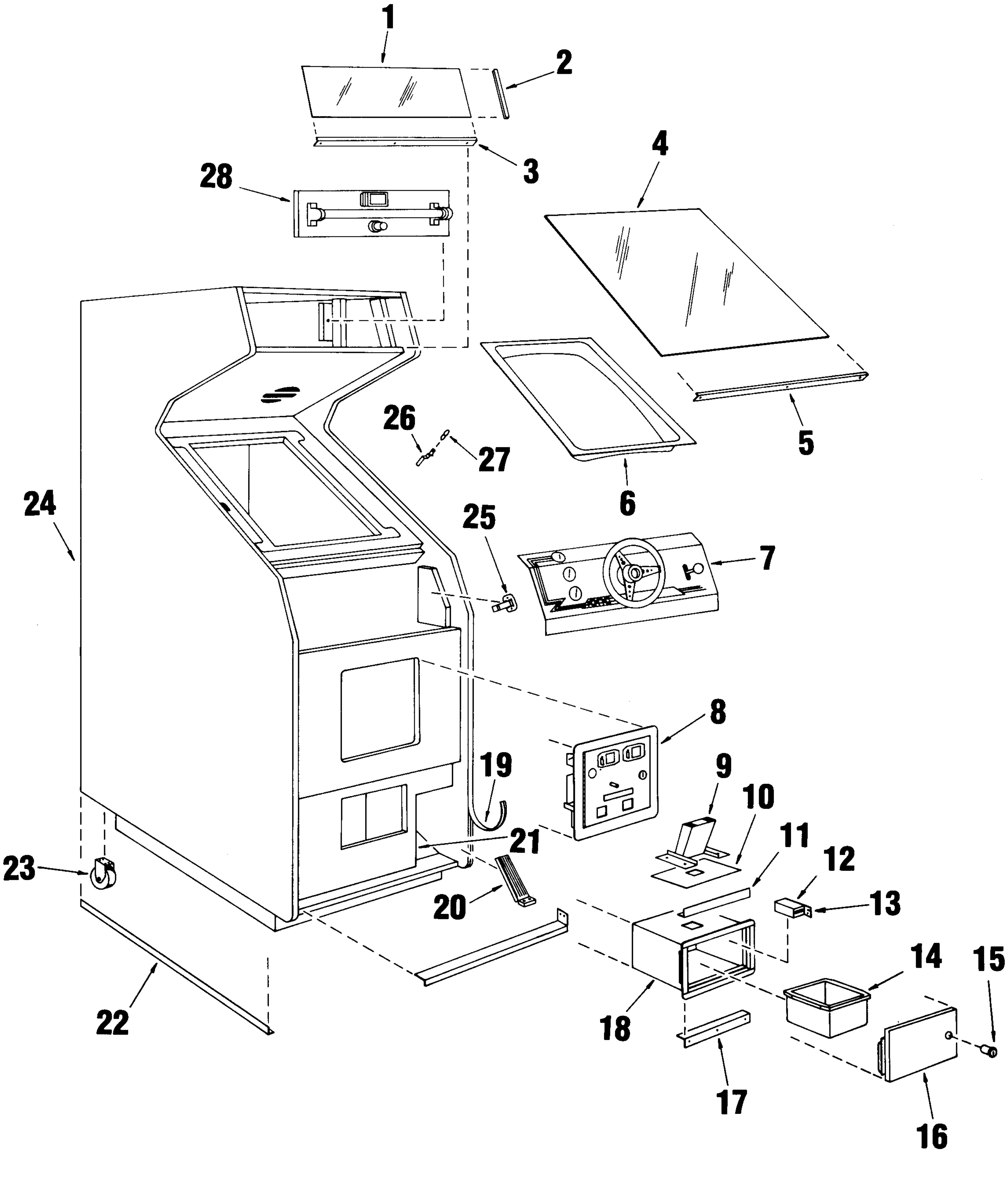
## FIGURE 11

| ITEM | TAITO PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 47C00001-006 | Marquee |
| 2 | 63B00006-004 | "U" Channel |
| 3 | 61C00001-001 | Marquee Retaining Bracket |
| 4 | 47D00002-006 | Cover Glass |
| 5 | 61C00016-001 | Glass Retaining Bracket |
| 6 | 63-00003-001 | Monitor Shroud |
| 7 | 07-00086-001 | Control Panel Assembly |
| 8 | 07-00101-001 | Coin Door Assembly |
| 9 | 500060 | Coin Funnel |
| 10 | 500061 | Coin Funnel Plate |
| 11 | 500086 | Mounting Bracket (Top) |
| 12 | 115000 | Counter, 6VDC |
| 13 | 500091 | Counter Bracket |
| 14 | 400050 | Cash Case |
| 15 | 600006 | Lock & Key (Cash Box) |
| 16 | 500089 | Cash Box Door |
| 17 | 500087 | Mounting Bracket (Bottom) |
| 18 | 500088 | Cash Box |
| 19 | 63-00002-010 | "T" Molding 84" Long |
| 20 | 8862 | Accelerator Pedal |
| 21 | 61-00189-001 | Foot Rest Bracket |
| 22 | 63B00005-001 | "L" Molding 33¼ " Long |
| 23 | 44C00001-001 | Wheel Assembly |
| 24 | 42-00013-001 | Cabinet |
| 25 | 59-00008-001 | Clamp |
| 26 | 26B00009-001 | Bayonet Base Socket |
| 27 | 27-00002-001 | Pilot, Lamp, 12V 150Ma |
| 28 | 42-00125-001 | Fluorescent Lamp Assembly |
| *29 | 09-00180-001 | Main Harness |
| *30 | 79-50013-001 | Instruction Card |
| *31 | 79-00036-001 | Extra Label Set |

*Item not shown on drawing

## CABINET ASSEMBLY (FRONT VIEW)

FIGURE 11



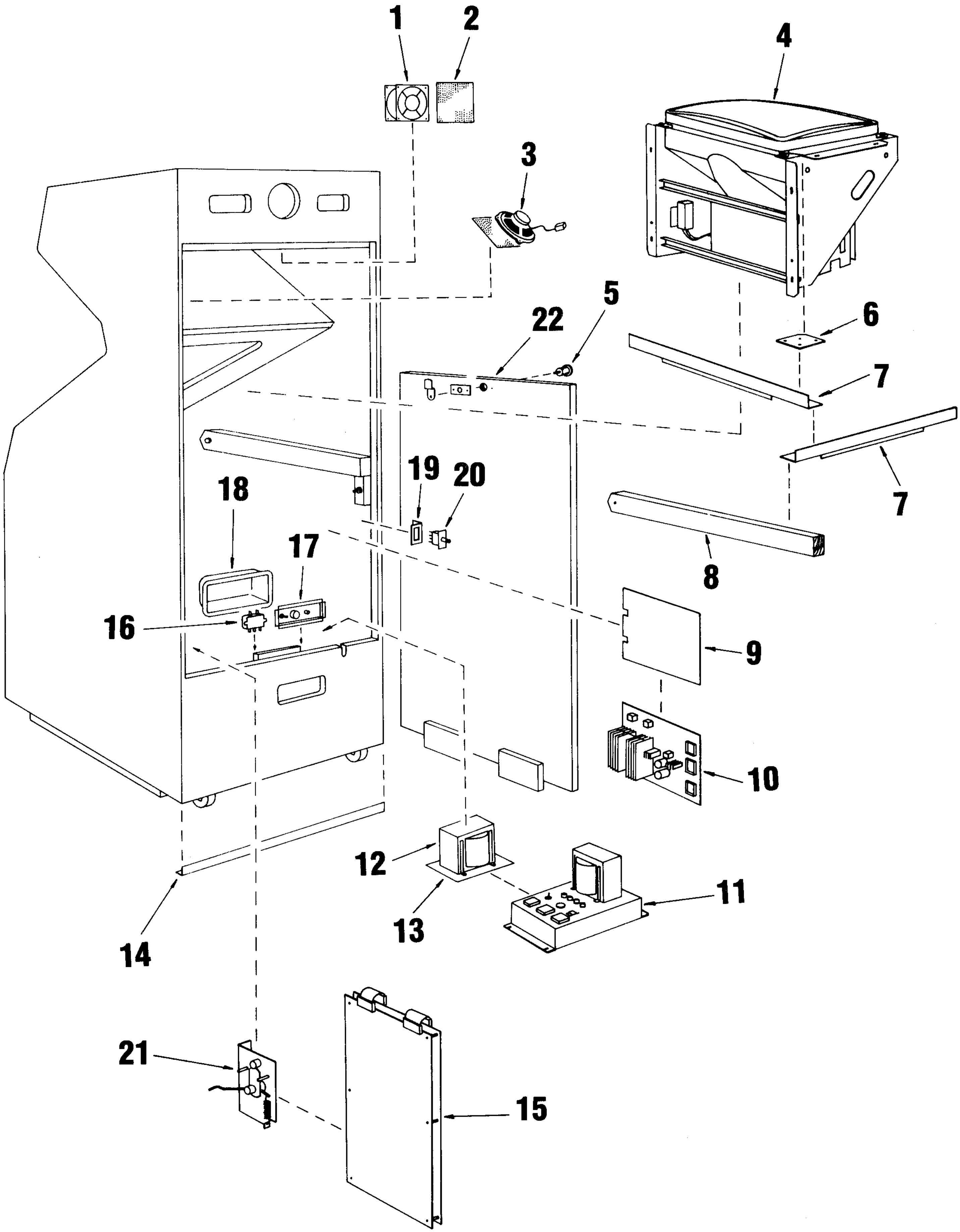
## CABINET ASSEMBLY (REAR VIEW)

### FIGURE 12

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| 1 | 07-00084-001 | Fan Assembly | |
| 2 | 61-00165-001 | Fan Screen | |
| 3 | 04M00005-001 | Speaker Assembly | |
| 4 | 31-00009-001 | 19″ Monitor | |
| | 31-00010-001 | 19″ Monitor | |
| 5 | 45-00001-001 | Lock & Key Assembly | |
| 6 | 61C00086-001 | Anchor Plate | |
| 7 | 61C00080-001 | Monitor Mounting Bracket | |
| 8 | 42C00117-001 | Monitor Cleat | |
| 9 | 88110 | Sound Board | |
| 10 | 08-00023-001 | Power Supply Board | |
| 11 | 07-00092-001 | Power Supply | |
| 12 | 07-00003-001 | Isolation Transformer | |
| 13 | 61-00192-001 | Isolation Transformer Plate | |
| 14 | 63B00005-006 | "L" Molding | |
| 15 | 88100 | CPU Board | |
| 16 | 22B00001-001 | Line Filter | |
| 17 | 07-00094-001 | Power ON/OFF Switch Assembly | |
| 18 | | Switch Cover | AA019542 |
| 19 | 61B00030-002 | Switch Mounting Bracket | |
| 20 | 29B00015-001 | Interlock Switch | |
| 21 | 07-00093-001 | Accelerator Assembly | |
| 22 | 42-00123-001 | Rear Door | |

## CABINET ASSEMBLY (REAR VIEW)

FIGURE 12



# COIN DOOR & FRONT DOOR ASSEMBLY

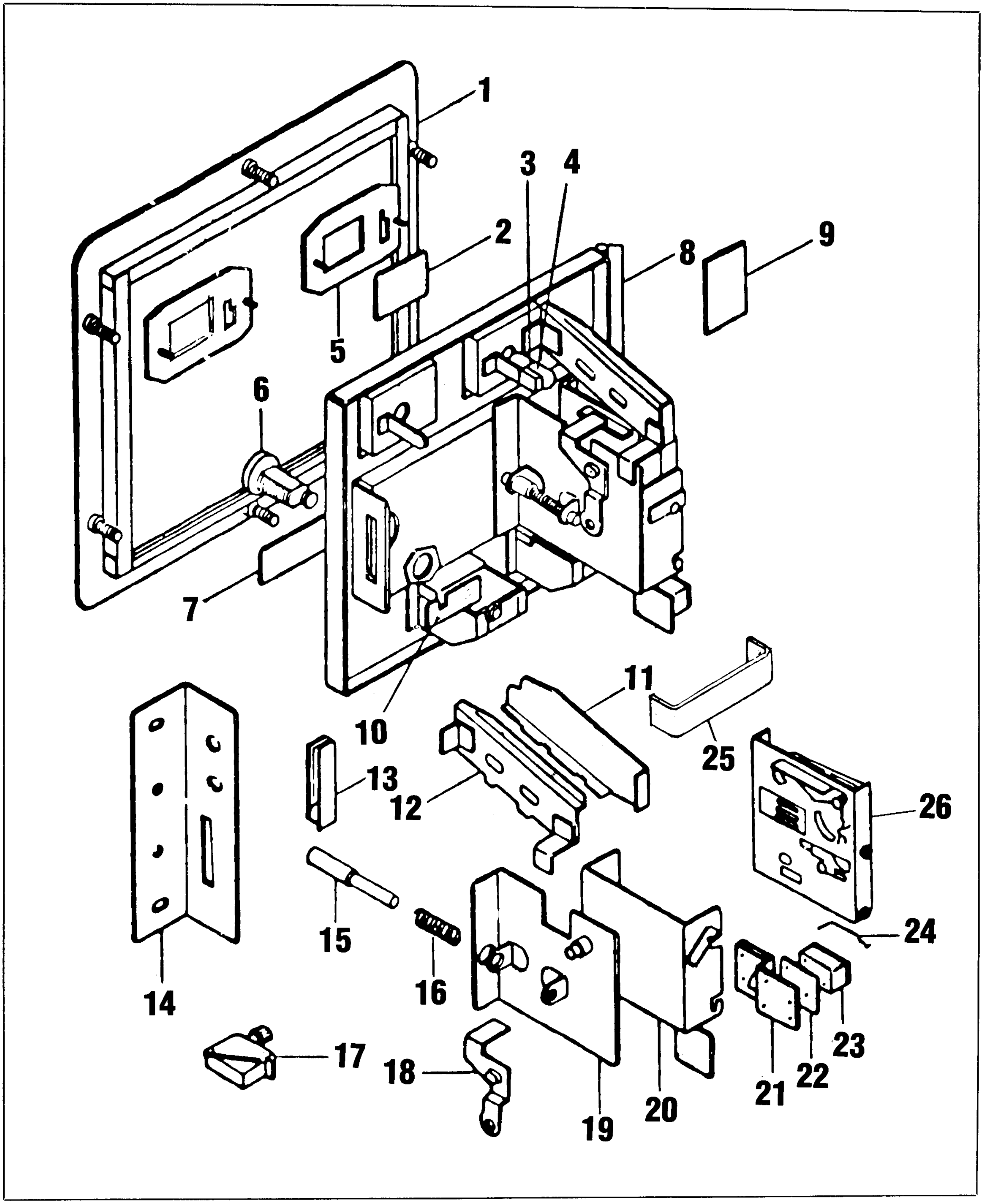
## FIGURE 13

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| 1 | 500010 | Door Frame | AA026510 |
| 2 | 79-50005-001 | Price U.S. 25¢ | AA054704 |
| 3 | 27-00002-001 | Pilot Lamp, 12V, 150Ma | AA055698 |
| 4 | 113001 | Vinyl Socket | |
| 5 | 61A00051-001 | Coin Entry Plate for 25¢ | AA016558 |
| 6 | 600006 | Service Lock & Key No. 7900 | AA016558 |
| 7 | 79A00016-001 | Taito Name Tag | |
| 8 | 500009 | Coin Rejection Door | AA026511 |
| 9 | 500021-E | Cover Plate | AA019522 |
| 10 | 500021-I | Lock Plate | AA013578 |
| 11 | 500021-G | Coin Guide (B) | AA025508 |
| 12 | 500021-H | Coin Guide (A) | AA025507 |
| 13 | 500021-J | Tilt Switch | AA068717 |
| 14 | 61-00041-001 | Lock Guard | AA013577 |
| 15 | 500021-K | Rejection Button | AA0027504 |
| 16 | 500021-L | Spring Cancel Holder | AA015504 |
| 17 | 024501 | Service Switch | |
| 18 | 500021-M | Cancel Lever | |
| 19 | 500021-N | Rejector Bracket | AA013554 |
| 20 | 500021-P | Rejector Holder | AA023501 |
| 21 | 50054 | Coin Guide | AA025503 |
| 22 | 199005 | Insulator | AA019502 |
| 23 | 29-00007-001 | Micro Switch | AA052512 |
| 24 | 370002 | Actuator | AA053501 |
| 25 | 500021-H | Rejector Lever Connector | |
| 26 | 59-00018-001 | Coin Acceptor | |
| *27 | 09-00195-001 | Coin Door Harness | |

*Item not shown on drawing.

# COIN DOOR & FRONT DOOR ASSEMBLY

FIGURE 13



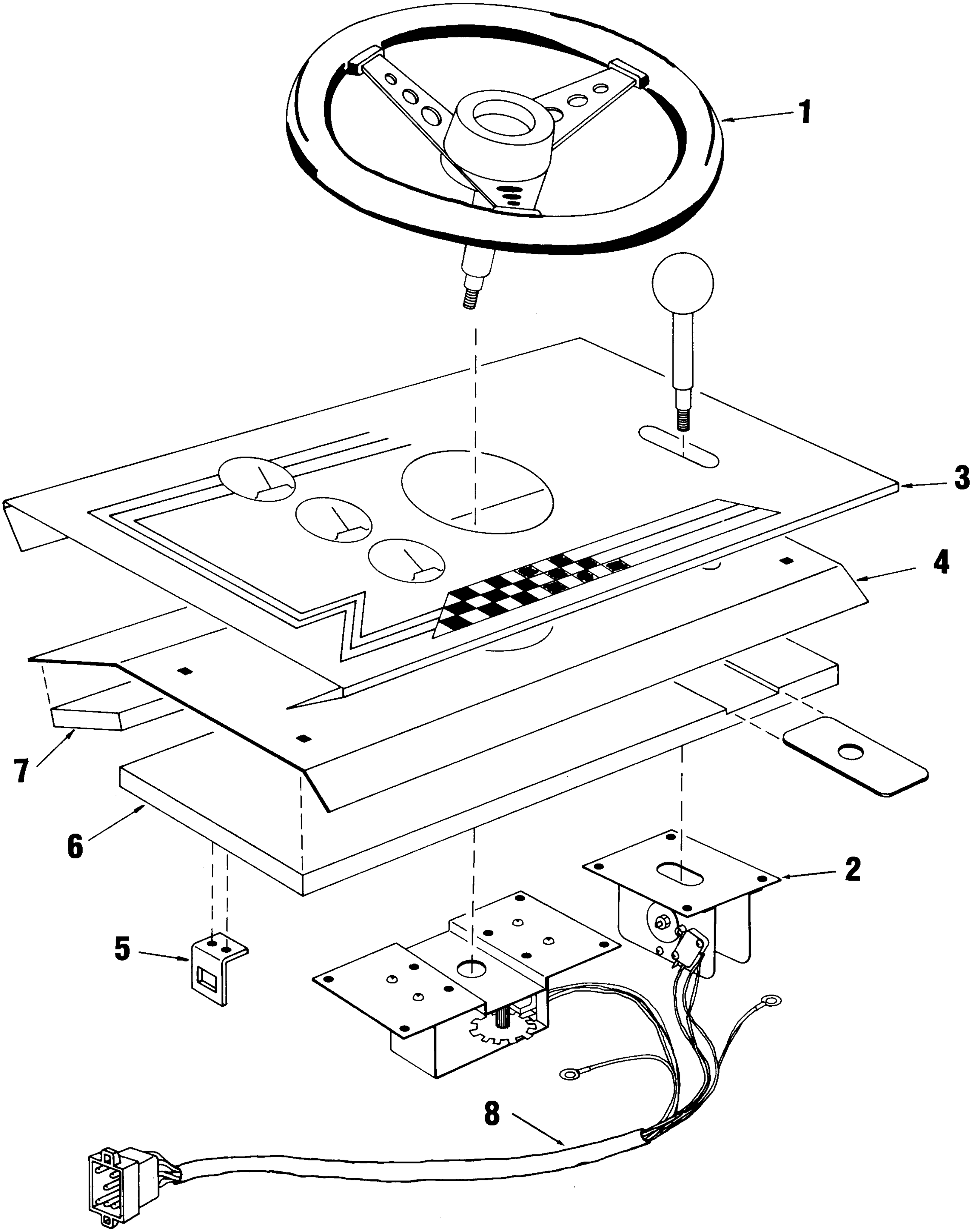
# DASH PANEL

## FIGURE 14

| ITEM | TAITO PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 07-00090-001 | Steering Wheel Assembly |
| 2 | 07-00091-001 | Shift Lever Assembly |
| 3 | 63-00059-001 | Lexan, Overlay |
| 4 | 61-00196-001 | Panel, Dash |
| 5 | 61A00015-001 | Strike Bracket |
| 6 | 42-00122-001 | Panel Support (Lower) |
| 7 | 42-00121-001 | Panel Support (Upper) |
| 8 | 09-00181-001 | Dash Panel Harness |

## DASH PANEL

FIGURE 14



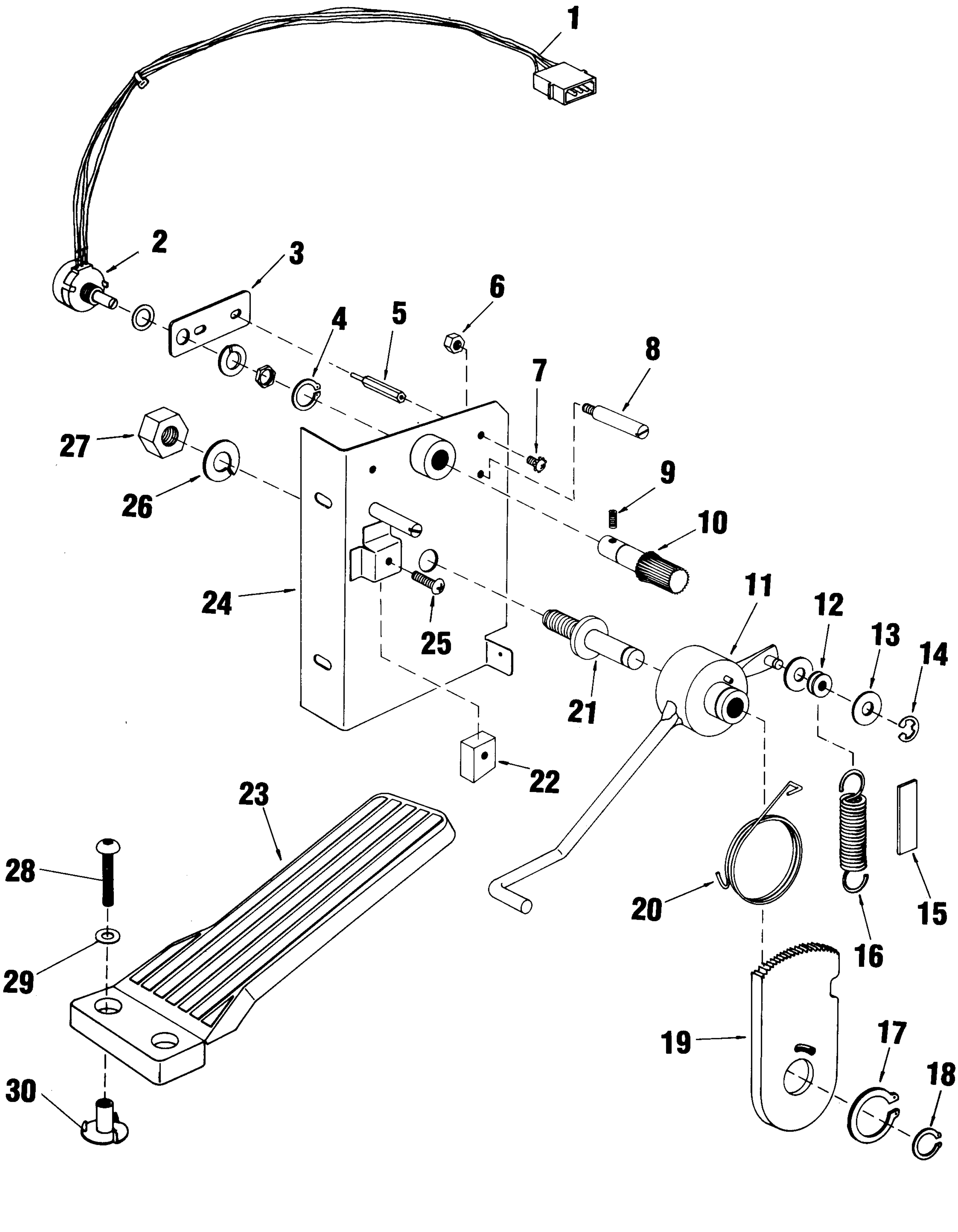
# ACCELERATOR ASSEMBLY

## FIGURE 15

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| 1 | 09-00196-001 | Accelerator Harness | |
| 2 | 8861 | Variable Resistor | AAT53024 |
| 3 | 8860 | Volume Plate | SE030022 |
| 4 | 8882 | C-Ring STW-12 | |
| 5 | 8859 | Guide Shaft | SD020005 |
| 6 | 8849 | Nut M6 | |
| 7 | 305016 | Pan HD Screw M3X6 | |
| 8 | 8857 | Stop Pin | SD020010 |
| 9 | 305025 | Set Screw Socket M4X6 | |
| 10 | 8881 | Gear | SD020003 |
| 11 | 8871 | Accelerator Lever | EC020008 |
| 12 | 8877 | Bushing | SE020006 |
| 13 | 390045 | Plain Washer 6M | |
| 14 | 390047 | "E"Ring ETWJ-5 | |
| 15 | 8876 | Felt Plug | SE090008 |
| 16 | 8875 | Spring | SE050002 |
| 17 | 8880 | "C" Ring STW-18 | |
| 18 | 8872 | "C" Ring STW-10 | |
| 19 | 8878 | Gear Segment | EC020007 |
| 20 | 8879 | Spring | EC050001 |
| 21 | 8868 | Pin | SD020004 |
| 22 | 8883 | Rubber Stop | EC080001 |
| 23 | 8862 | Accelerator Pedal | SD090006 |
| 24 | 8866 | Accelerator Bracket | EC030020 |
| 25 | 8856 | Pan HD Screw M5X20 | |
| 26 | 8869 | Lock Washer 10M | |
| 27 | 8870 | Nut M10 | |
| 28 | 8863 | Button Head Screw M5X 35 | |
| 29 | 8864 | Plain Washer 5M | |
| 30 | 352054 | T-Nut M5 | |

## ACCELERATOR ASSEMBLY

FIGURE 15



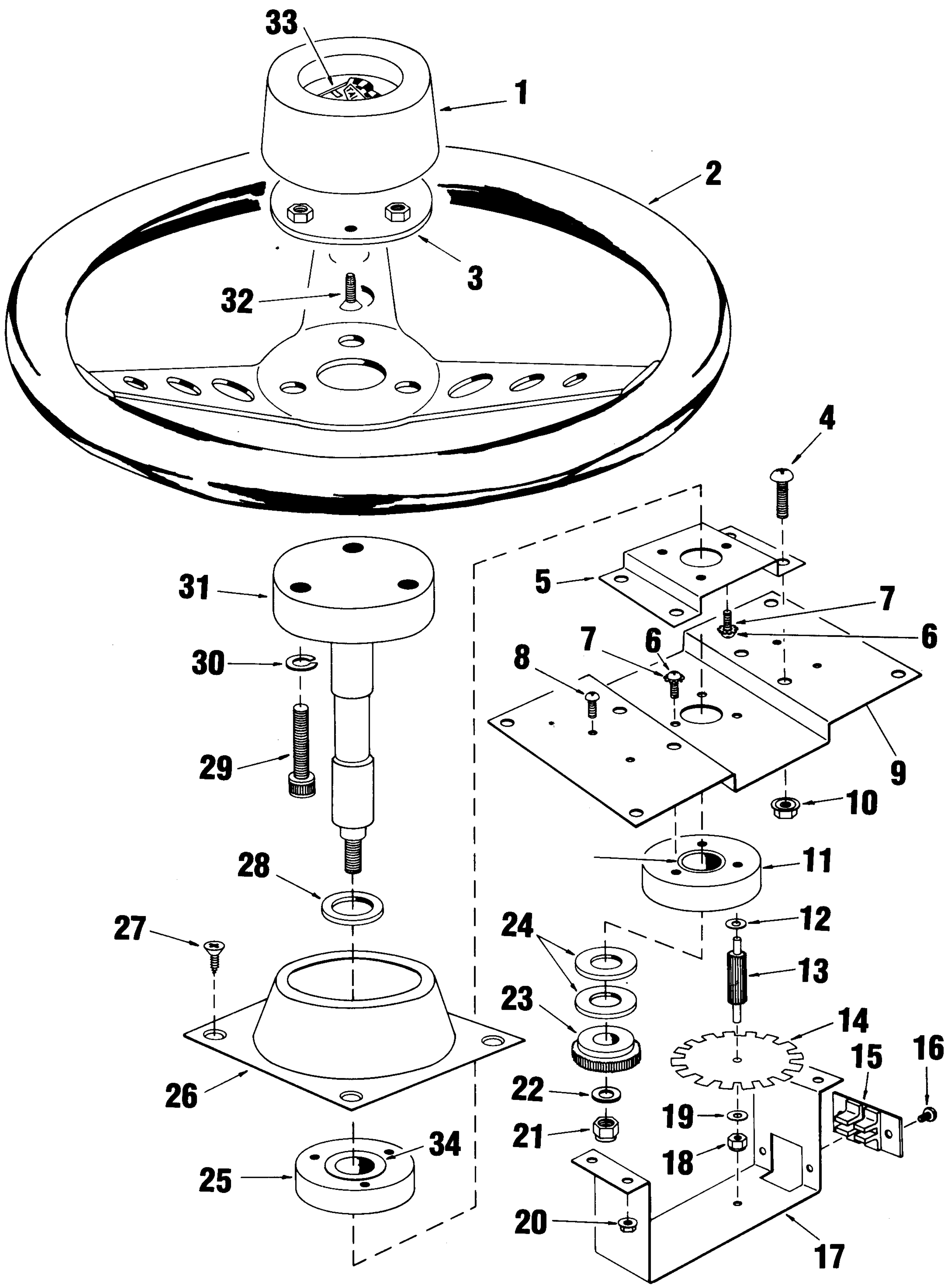
# STEERING ASSEMBLY

## FIGURE 16

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| 1 | 8814 | Steering Cap | EC090003 |
| 2 | 8818 | Steering Wheel | SE090004 |
| 3 | 8816 | Retaining Plate Assembly | EC030002 |
| 4 | 882 | Pan HD Screw M6X25 | |
| 5 | 881 | Hub Base (B) | GM0300020 |
| 6 | 390027 | Star Washer | |
| 7 | 885 | Pan HD Screw M4X10 | |
| 8 | 305026 | Pan HD Screw M4X8 | |
| 9 | 886 | Hub Base (A) | GM030032 |
| 10 | 887 | Flange Nut M6 | |
| 11 | 888 | Hub (A) | GM020004 |
| 12 | 8810 | Flange Bushing 80F-0406 (Oiless) | |
| 13 | 8826 | Gear | GM020003 |
| 14 | 8825 | Pulse Cam | TE030009 |
| 15 | 8830 | Photo Sensor PCB Assembly | TE000004 |
| 16 | 305026 | Pan HD Screw M3X6 | |
| 17 | 8829 | Sensor Board Bracket | GM030031 |
| 18 | 8828 | Self Lock Nut M4 | |
| 19 | 8827 | Spring Washer 4M | |
| 20 | 352053 | Flange Nut M4 | |
| 21 | 8824 | Self Lock Nut M6 | |
| 22 | 8821 | Spring Washer 6M | |
| 23 | 8823 | Gear | GM020002 |
| 24 | 8822 | Spacer | JE020005 |
| 25 | 883 | Hub (B) | GM020005 |
| 26 | 8812 | Steering Cover | SD090024 |
| 27 | 8813 | C-Sink HD Screw 3.50X10 | |
| 28 | 8822 | Spacer | JE020005 |
| 29 | 8820 | Cap Bolt M6X30 | |
| 30 | 8821 | Spring Washer 6M | |
| 31 | 8819 | Steering Shaft | GM020008 |
| 32 | 8817 | C-Sink HD Self Tap M4X10-2 | |
| 33 | 8815 | Decoration Plate | EC070008 |
| 34 | 884 | Flange Bushing 80F-1512 (Oiless) | |

## STEERING ASSEMBLY

FIGURE 16



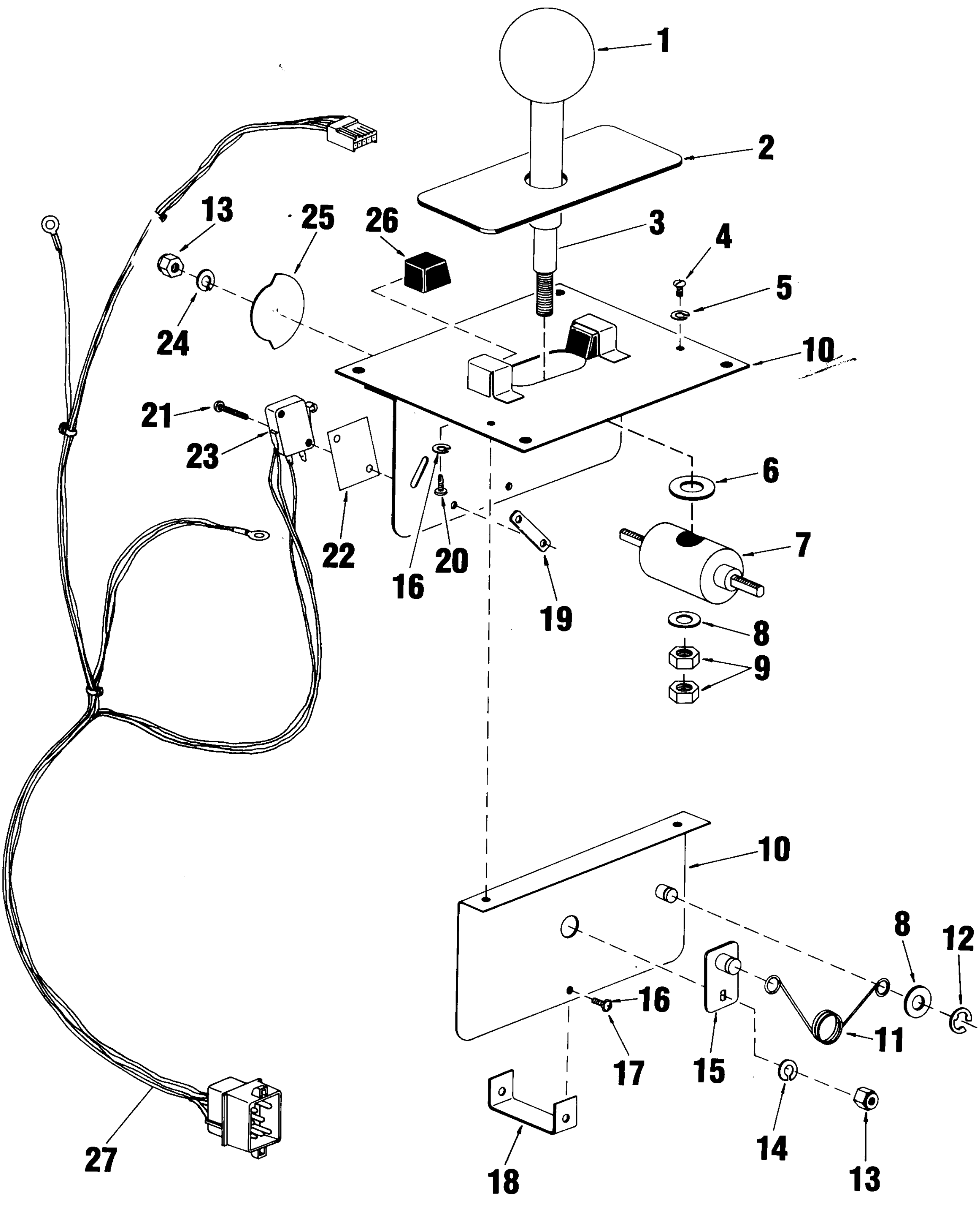
# SHIFT LEVER ASSEMBLY

## FIGURE 17

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| 1 | 8852 | Shift Knob | CH090002 |
| 2 | 8851 | Mask | GM090003 |
| 3 | 8847 | Lever | GM020006 |
| 4 | 305016 | Pan HD Screw M3X6 | |
| 5 | 390028 | Lock Washer 3M | |
| 6 | 8848 | Plain Washer 8M | |
| 7 | 8840 | Center Shaft | GM020007 |
| 8 | 390045 | Plain Washer 6M | |
| 9 | 8849 | Nut M6 | |
| 10 | 8841 | Shift Bracket | GM030022 |
| 11 | 8846 | Spring | GM050001 |
| 12 | 390047 | E-Ring ETWJ-4 | |
| 13 | 352054 | Self Locking Nut M5 | |
| 14 | 8845 | Spring Washer 5M | |
| 15 | 8844 | Guide Arm | GM030025 |
| 16 | 390028 | Lock Washer | GM030021 |
| 17 | 305016 | Pan HD Screw M3X6 | |
| 18 | 8850 | Spacer | |
| 19 | 8839 | Tap Plate | AA013658 |
| 20 | 390028 | Lock Washer 3M | |
| 21 | 305018 | Pan HD Screw M3X16 | |
| 22 | 199010 | Insulation V-Type | AA019504 |
| 23 | 020503 | Micro Switch | AA052532 |
| 24 | 8843 | Spring Washer 5M | |
| 25 | 8842 | Cam | TE030010 |
| 26 | 8837 | Rubber Bumper | GM080001 |
| 27 | 09-00181-001 | Dash Panel Harness | |

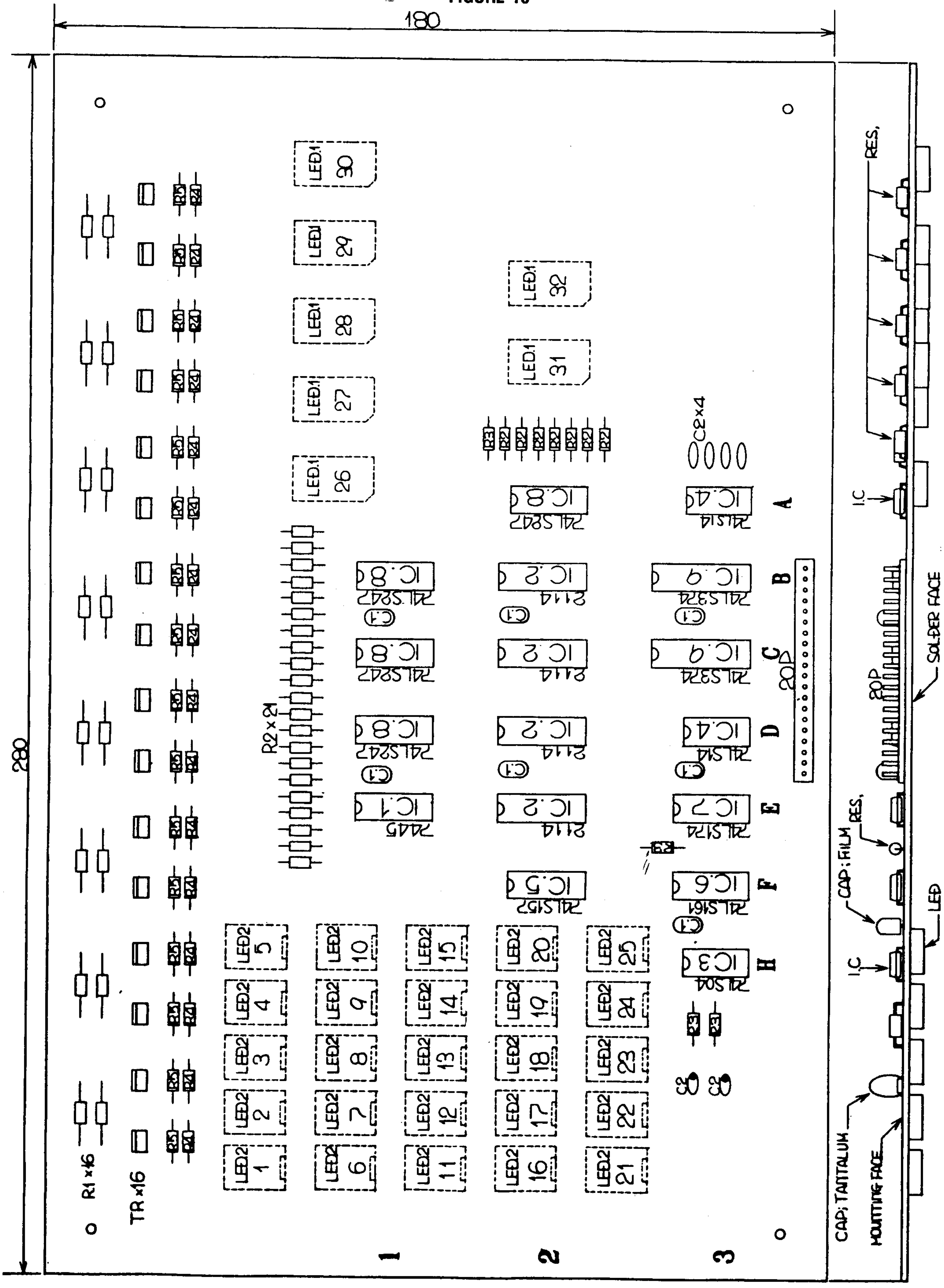
## SHIFT LEVER ASSEMBLY

FIGURE 17



**TIME & SCORE BOARD COMPONENT LAYOUT**

**FIGURE 18**



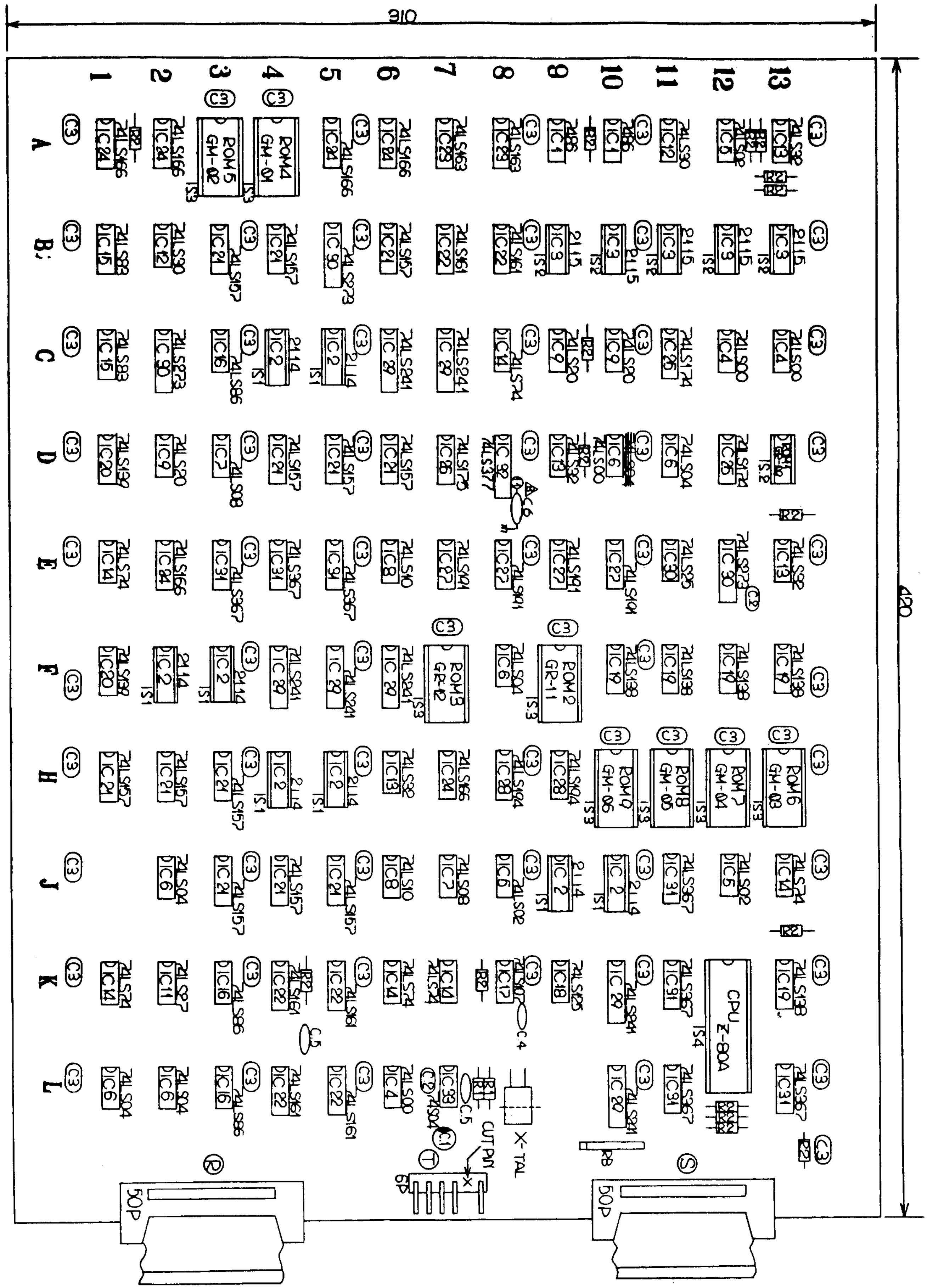
# TIME & SCORE BOARD

## FIGURE 18

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| 20P | 8886 | H-Connector Housing 20P | AA055220 |
| LED 1 | 8887 | LED TLR306 | AA069514 |
| TR | 050012 | Transistor 2SA509-0 | AAT11032 |
| LED 2 | 8888 | LED TLR353 | AAT12051 |
| IC1 | 075032 | TTL-IC 7445 | AAT32132 |
| IC2 | 078004 | Static RAM 2114-4 | AAT32156 |
| IC3 | 076152 | LS-IC 74LS04 | AAT33005 |
| IC4 | 076010 | LS-IC 74LS14 | AAT33015 |
| IC5 | 076060 | LS-IC 74LS157 | AAT33112 |
| IC6 | 076063 | LS-IC 74LS161 | AAT33116 |
| IC7 | 076151 | LS-IC 74LS174 | AAT33127 |
| IC8 | 076090 | LS-IC 74LS247 | AAT33159 |
| IC9 | 076122 | LS-IC 74LS374 | AAT33209 |
| C1 | 8889 | Capacitor, Film TDY-1H-104 | AAT41244 |
| C2 | 025024 | Capacitor, Ceramic 470pf,50V | AAT41334 |
| C3 | 8896 | Capacitor, Tantalum SSG-OR68F | AAT41435 |
| R1 | 001039 | Resistor, Carbon 390 ohm | AAT51053 |
| R2 | 001059 | Resistor, Carbon 2K ohm, $1/2$W ± 5% | AAT51072 |
| R3 | 000067 | Resistor, Carbon 1K ohm, $1/4$W ± 5% | AAT51765 |
| R4 | 000093 | Resistor, Carbon 12K ohm, $1/4$W ± 5% | AAT51767 |
| R5 | 000081 | Resistor, Carbon 3.9K ohm, $1/4$W ± 5% | AAT51779 |

## CPU PC BOARD COMPONENT LAYOUT

FIGURE 19



# CPU PC BOARD

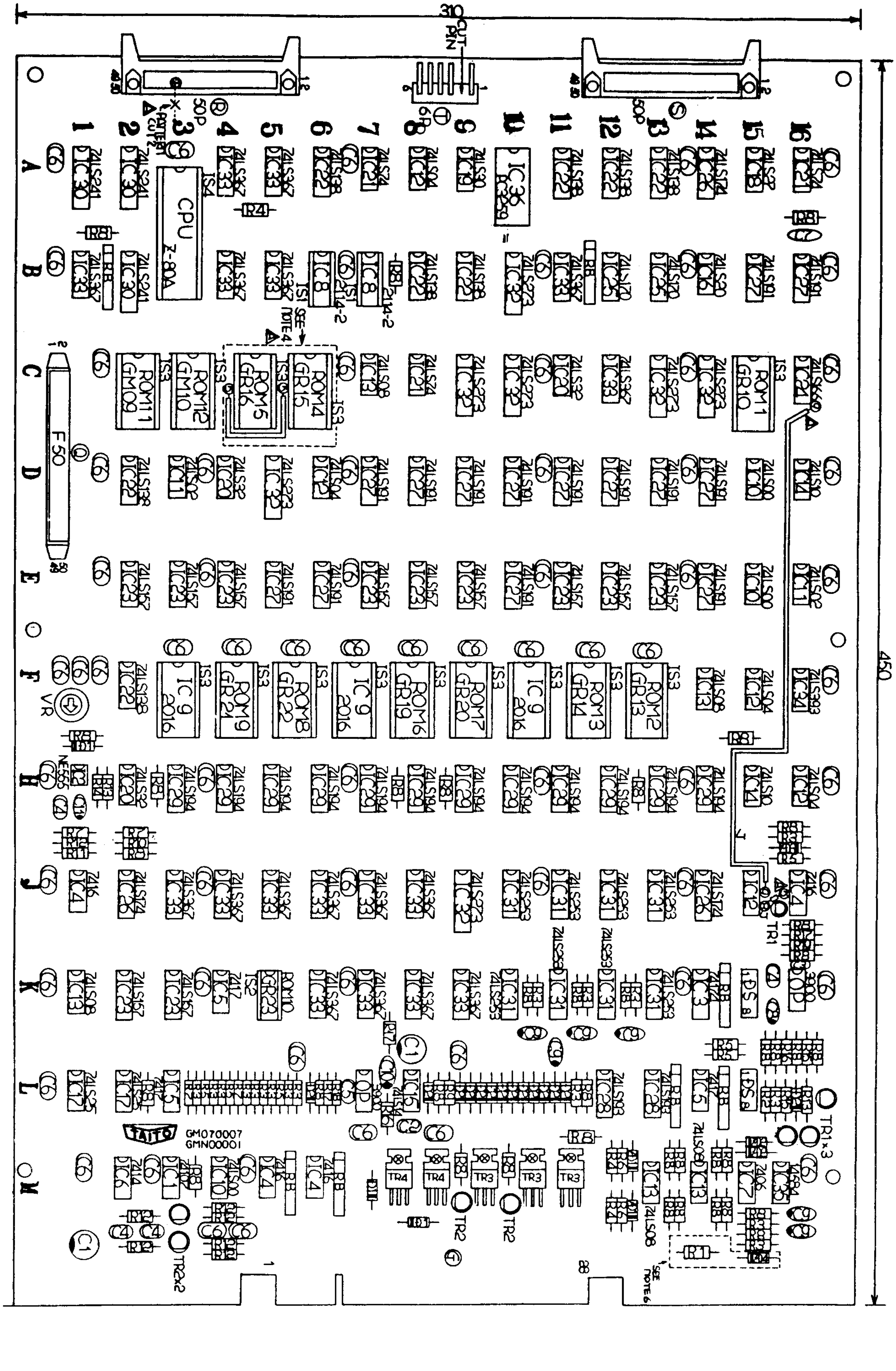
## FIGURE 19

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| 50P | 998501 | F.R.C. Harness Assembly | AAS00262 |
| IS1 | 88101 | IC Socket 18P | AA055103 |
| 6P | 88102 | SL156 Post Header (Side) 6P | AA055326 |
| IS2 | 88103 | IC Socket 16P | AA055786 |
| IS3 | 88104 | IC Socket 24P | AA055787 |
| IS4 | 88105 | IC Socket 40P | AA055812 |
| X-TAL | 998306 | X-TAL 18.432 | AA069590 |
| IC1 | 075055 | TTL-IC 7486 | AAT32013 |
| IC2 | 078004 | Static RAM 2114 | AAT32156 |
| IC3 | 15-10009-001 | S-RAM | AAT32169 |
| IC4 | 076000 | LS-IC 74LS00 | AAT33001 |
| IC5 | 076001 | LS-IC 74LS02 | AAT33003 |
| IC6 | 076003 | LS-IC 74LS04 | AAT33005 |
| IC7 | 076005 | LS-IC 74LS08 | AAT33009 |
| IC8 | 076007 | LS-IC 74LS10 | AAT33011 |
| IC9 | 076012 | LS-IC 74LS20 | AAT33019 |
| IC10 | 076153 | LS-IC 74LS25 | AAT33022 |
| IC11 | 176016 | LS-IC 74LS27 | AAT33024 |
| IC12 | 076018 | LS-IC 74LS30 | AAT33026 |
| IC13 | 076019 | LS-IC 74LS32 | AAT33027 |
| IC14 | 076032 | LS-IC 74LS74 | AAT33051 |
| IC15 | 076035 | LS-IC 74LS88 | AAT33059 |
| IC16 | 076037 | LS-IC 74LS86 | AAT33062 |
| IC17 | 076043 | LS-IC 74LS107 | AAT33076 |
| IC18 | 076048 | LS-IC 74LS125 | AAT33089 |
| IC19 | 076053 | LS-IC 74LS138 | AAT33096 |
| IC20 | 076054 | LS-IC 74LS139 | AAT33092 |
| IC21 | 076060 | LS-IC 74LS157 | AAT33112 |
| IC22 | 076063 | LS-IC 74LS161 | AAT33116 |
| IC23 | 076065 | LS-IC 74LS163 | AAT33118 |
| IC24 | 076146 | LS-IC 74LS166 | AAT33121 |
| IC25 | 076072 | LS-IC 74LS174 | AAT33127 |

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| IC26 | 076073 | LS-IC 74LS175 | AAT33128 |
| IC27 | 076077 | LS-IC 74LS191 | AAT33141 |
| IC28 | 076080 | LS-IC 74LS194 | AAT33144 |
| IC29 | 076085 | LS-IC 74LS241 | AAT33153 |
| IC30 | 076103 | LS-IC 74LS273 | AAT33170 |
| IC31 | 076119 | LS-IC 74LS367 | AAT33203 |
| IC32 | 076124 | LS-IC 74LS377 | AAT33221 |
| CPU | 077002 | CPU 2-80A | AAT34008 |
| IC33 | 075703 | S-IC 74LS04 | AAT38003 |
| ROM1 | 88GR00 | P-ROM (24S288) | GR090019 |
| ROM2 | 88GR11 | P-ROM (2532) GR-11 | GR090021 |
| ROM3 | 88GR12 | P-ROM (2532) GR-12 | GR090022 |
| ROM4 | 88GR01 | P-ROM (2532) GM-01 | GR000005 |
| ROM5 | 88GR02 | P-ROM (2532) GM-02 | GM000006 |
| ROM6 | 88GR08 | P-ROM (2532) GM-08 | GM090007 |
| ROM7 | 88GR04 | P-ROM (2532) GM-04 | GM090008 |
| ROM8 | 88GR05 | P-ROM (2532) GM-05 | GM090009 |
| ROM9 | 88GR06 | P-ROM (2532) GM-06 | GM090010 |
| C1 | 88106 | Capacitor, Electrolytic 25VB100 | AAT41036 |
| C2 | 88107 | Capacitor, Film TDY-1H-102 | AAT41232 |
| C3 | 8889 | Capacitor, Film TDY-1H-104 | AAT41244 |
| C4 | 025020 | Capacitor, Ceramic 100pf, 50V | AAT41318 |
| C5 | 025027 | Capacitor, Ceramic 180pf, 50V | AAT41324 |
| R1 | 88108 | Resistor, Carbon 330 ohm, 1/4W ± 5% | ATT51753 |
| R2 | 000067 | Resistor, 1K ohm, 1/4W ± 5% | AAT51765 |
| RB | 997631 | Resistor, Block 1K ohm, 8 elements | AAT55036 |
| C6 | 025028 | Capacitor, Ceramic 68pf, 50V | AAT41314 |

# GAME PC BOARD COMPONENT LAYOUT

FIGURE 20



# GAME PC BOARD

## FIGURE 20

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| DS | 88116 | Dip Switch DSS-8 | AAO 52566 |
| IS1 | 88101 | IC Socket 18P | AAT 55103 |
| 50P | 88117 | Angle Pin Header 50P | AAT 55310 |
| F50 | 88118 | Flat Pin Header 50P | AAT 55315 |
| 6P | 88119 | S1156 Post Header 6P | AAT 55326 |
| IS2 | 88103 | IC Socket 16P | AAT 55786 |
| IS3 | 88120 | IC Socket 24P | AAT 55787 |
| IS4 | 88105 | IC Socket 40P | AAT 55812 |
| TR1 | 997967 | Transistor 2SC458-C | AAT 11005 |
| TR2 | 050001 | Transistor 2SC372-0 | AAT 11020 |
| TR3 | 050002 | Transistor 2SC1060-B | AAT 11030 |
| TR4 | 050004 | Transistor 2SA473-D | AAT 11040 |
| D1 | 998019 | Diode V03V | AAT 12002 |
| D2 | 998020 | Diode 1S188 | AAT 12025 |
| ZD1 | 88120 | Zener Diode RD4.7EC | AAT 13025 |
| ZD2 | 88121 | Zener Diode RD5.6EB | AAT 13026 |
| ZD3 | 998014 | Zener Diode RD9A-M | AAT 13028 |
| ZD4 | 88122 | Zener Diode RD12EB | AAT 13035 |
| OP | 179000 | OP Amplifier TM3900 | AAT 31011 |
| TC1 | 075069 | TTL - IC 74107 | AAT 32016 |
| IC2 | 080014 | TTL - IC NE555V | AAT 32019 |
| IC3 | 075110 | TTL - IC 74174 | AAT 32029 |
| IC4 | 075014 | TTL - IC 7416 | AAT 32033 |
| IC5 | 075015 | TTL - IC 7417 | AAT 32049 |
| IC6 | 075013 | TTL - IC 7414 | AAT 32054 |
| IC7 | 075006 | TTL - IC 7406 | AAT 32112 |
| IC8 | 078055 | Static RAM | AAT 32163 |
| IC9 | 078006 | Static RAM TMM2016P | AAT 32178 |
| IC10 | 076000 | LS - IC 74LS00 | AAT 33001 |
| IC11 | 076001 | LS - IC 74LS02 | AAT 33003 |
| IC12 | 076003 | LS - IC 74LS04 | AAT 33005 |
| IC13 | 076005 | LS - IC 74LS08 | AAT 33009 |
| IC14 | 076007 | LS - IC 74LS10 | AAT 33011 |
| IC15 | 076010 | LS - IC 74LS14 | AAT 33015 |
| IC16 | 076012 | LS - IC 74LS20 | AAT 33019 |
| IC17 | 076014 | LS - IC 74LS25 | AAT 33022 |
| IC18 | 076016 | LS - IC 74LS27 | AAT 33024 |
| IC19 | 076018 | LS - IC 74LS30 | AAT 33026 |
| IC20 | 076019 | LS - IC 74LS32 | AAT 33027 |
| IC21 | 076032 | LS - IC 74LS74 | AAT 33051 |
| IC22 | 076053 | LS - IC 74LS138 | AAT 33096 |
| IC23 | 076060 | LS - IC 74LS157 | AAT 33112 |
| IC24 | 076146 | LS - IC 74LS166 | AAT 33121 |
| IC25 | 076070 | LS - IC 74LS170 | AAT 33124 |
| IC26 | 076151 | LS - IC 74LS174 | AAT 33127 |
| IC27 | 076054 | LS - IC 74LS191 | AAT 33141 |

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| IC28 | 076079 | LS - IC 74LS193 | AAT 33143 |
| IC29 | 076080 | LS - IC 74LS194 | AAT 33144 |
| IC30 | 076085 | LS - IC 74LS241 | AAT 33153 |
| IC31 | 076094 | LS - IC 74LS253 | AAT 33163 |
| IC32 | 076070 | LS - IC 74LS273 | AAT 33170 |
| IC33 | 076119 | LS - IC 74LS367 | AAT 33203 |
| IC34 | 076129 | LS - IC 74LS393 | AAT 33220 |
| CPU | 077002 | CPU 2-80A | AAT 34008 |
| IC35 | 88123 | C-MOS MC14584 | AAT 36105 |
| IC36 | 88124 | Custom IC PC3259 | AAT 37003 |
| ROM 1 | 88GR10 | P-ROM (2716) GR10 | GRO 90020 |
| ROM 2 | 88GR13 | P-ROM (2532) GR13 | GRO 90023 |
| ROM 3 | 88GR14 | P-ROM (2532) GR14 | GRO 90024 |
| ROM 4 | 88GR15 | P-ROM (2532) GR15 | GRO 90025 |
| ROM 5 | 88GR16 | P-ROM (2532) GR16 | GRO 90026 |
| ROM 6 | 88GR19 | P-ROM (2532) GR19 | GRO 90029 |
| ROM 7 | 88GR20 | P-ROM (2532) GR20 | GRO 90030 |
| ROM 8 | 88GR21 | P-ROM (2532) GR21 | GRO 90031 |
| ROM 9 | 88GR22 | P-ROM (2532) GR22 | GRO 90032 |
| ROM 10 | 88GR23 | P-ROM (74S288) GR23 | GRO 90033 |
| ROM 11 | 88GM09 | P-ROM (2532) 6M09 | GMO 90013 |
| ROM 12 | 88GM10 | P-ROM (2532) 6M10 | GMO 90014 |
| C1 | 88106 | Capacitor, Electrolytic 25VP100 | AAT 41036 |
| C2 | 88107 | Capacitor, Film TDY-1H-102 | AAT 41232 |
| C3 | 88151 | Capacitor, Film TDY-1H-332 | AAT 41235 |
| C4 | 88134 | Capacitor, Film TDY-1H-103 | AAT 41238 |
| C5 | 88152 | Capacitor, Film TDY-1H-333 | AAT 41241 |
| C6 | 8889 | Capacitor, Film TDY-1H-104 | AAT 41244 |
| C7 | 025027 | Capacitor, Ceramic DT-203 180P | AAT 41324 |
| C8 | 88153 | Capacitor, Tantalum SSG25-1F | AAT 41425 |
| C9 | 88154 | Capacitor, Tantalum SSG25-4R7F | AAT 41428 |
| C10 | 88155 | Capacitor, Tantalum SSG25-10F | AAT 41430 |
| C11 | 88156 | Capacitor, Tantalum SSG35-0R1F | AAT 41431 |
| R1 | 001090 | Resistor, Carbon 100K ohm $1/2$W $\pm$ 5% | AAT 51455 |
| R2 | 000091 | Resistor, Carbon 10K ohm $1/4$W $\pm$ 5% | AAT 51717 |
| R3 | 000043 | Resistor, Carbon 100K ohm $1/4$W $\pm$ 5% | AAT 51741 |
| R4 | 000051 | Resistor, 220K ohm $1/4$W $\pm$ 5% | AAT 51749 |
| R5 | 000053 | Resistor, 270K ohm $1/4$W $\pm$ 5% | AAT 51751 |

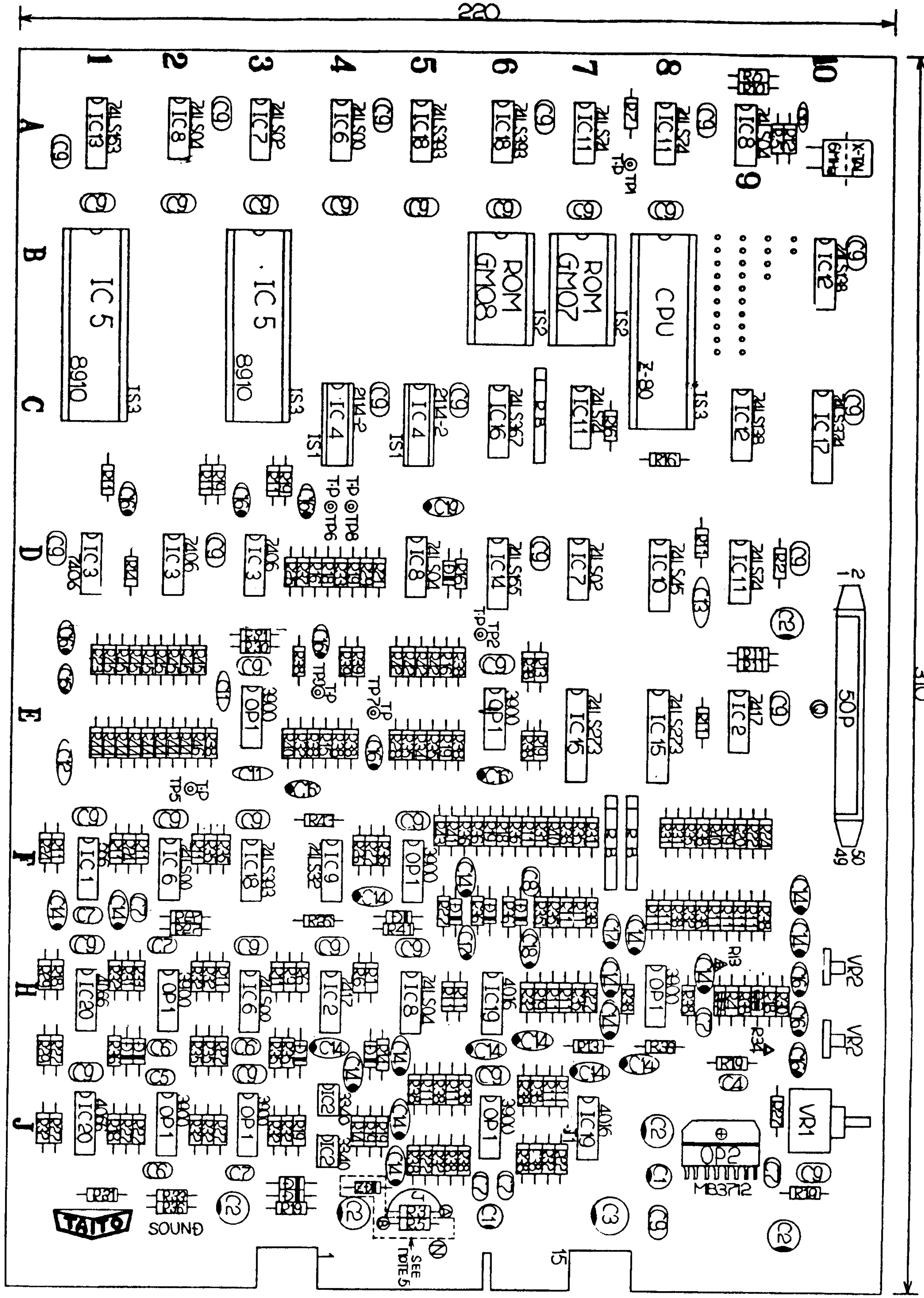
# GAME PC BOARD

## FIGURE 20

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| R6 | 000129 | Resistor, 390K ohm<br>1/4W ± 5% | AAT 51755 |
| R7 | 000059 | Resistor, 470K ohm<br>1/4W ± 5% | AAT 51757 |
| R8 | 000067 | Resistor, 1K ohm<br>1/4W ± 5% | AAT 51765 |
| R9 | 000074 | Resistor, 2K ohm<br>1/4W ± 5% | AAT 51772 |
| R10 | 000099 | Resistor, 22K ohm<br>1/4W ± 5% | AAT 51773 |
| R11 | 000103 | Resistor, 3.3K ohm<br>1/4W ± 5% | AAT 51777 |
| R12 | 000083 | Resistor, Carbon 4.7K ohm<br>1/4W ± 5% | AAT 51781 |
| R13 | 000091 | Resistor, Carbon 10K ohm<br>1/4W ± 5% | AAT 51789 |
| R14 | 000099 | Resistor, Carbon 22K ohm<br>1/4W ± 5% | AAT 51797 |
| R15 | 000101 | Resistor, Carbon 27K ohm<br>1/4W ± 5% | AAT 51799 |
| R16 | 000035 | Resistor, Carbon 47K ohm<br>1/4W ± 5% | AAT 51805 |
| R17 | 000129 | Resistor, Carbon 390K ohm<br>1/4W ± 5% | AAT 51827 |
| R18 | 000061 | Resistor, Carbon 560K ohm<br>1/4W ± 5% | AAT 51831 |
| R19 | 000067 | Resistor, Carbon 1M ohm<br>1/4W ± 5% | AAT 51837 |
| VR | 88157 | Variable Resistor, B-2K | AAT 53030 |
| RB | 997631 | Resistor Block, 1 ohm<br>8 elements | AAT 55036 |

## SOUND PC BOARD COMPONENT LAYOUT

FIGURE 21



# SOUND PC BOARD

## FIGURE 21

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| IS1 | 998501 | IC Socket 18P | AAO 55103 |
| 50P | 88118 | Flat Pin Header 50P | AAO 55315 |
| IS2 | 88104 | IC Socket 24P | AAO 55787 |
| IS3 | 88105 | IC Socket 40P | AAO 55812 |
| TP | 88143 | Test Point Chip | AAO 56548 |
| X-TAL | 88144 | X-Tal 6MHZ | AAO 69593 |
| D | 998020 | Diode 1S1588 | AAT 12025 |
| ZD | 88122 | Zener Diode RD12FB | AAT 13035 |
| OP1 | 079000 | OP Amplifier LM3990 | AAT 31011 |
| IC1 | 88145 | Timer IC | AAT 31028 |
| IC2 | 88146 | Attenuator MC3340 | AAT 31031 |
| OP2 | 079002 | OP Amplifier MB3712 | AAT 31042 |
| | 305016 | Pan Head Screw M3X6 | |
| | 88124 | Nut M3 | |
| IC2 | 075015 | TTL-IC 7417 | AAT 32049 |
| IC3 | 075006 | TTL-IC 7406 | AAT 32112 |
| IC4 | 078005 | Static RAM 2114-2 | AAT 32163 |
| IC5 | 083001 | Sound IC AY-38910 | AAT 32165 |
| IC6 | 076000 | IC - 74LS00 | AAT 33001 |
| IC7 | 076001 | IC - 74LS02 | AAT 33003 |
| IC8 | 076003 | IC - 74LS04 | AAT 33005 |
| IC9 | 076019 | IC - 74LS32 | AAT 33027 |
| IC10 | 076156 | IC - 74LS45 | AAT 33034 |
| IC11 | 076032 | IC - 74LS74 | AAT 33051 |
| IC12 | 076053 | IC - 74LS138 | AAT 33096 |
| IC13 | 076057 | IC - 74LS153 | AAT 33108 |
| C18 | 88147 | Cap, Tantalum SS635-3R3F | AAT 41438 |
| C19 | 88148 | Cap, Tantalum SSG35-4R7F | AAT 41439 |
| R1 | 000035 | Resistor, Carbon 47 ohm 1/4W ± 5% | AAT 51733 |
| R2 | 000039 | Resistor, Carbon 68 ohm 1/4W ± 5% | AAT 51737 |
| R3 | 000043 | Resistor, Carbon 100 ohm 1/4W ± 5% | AAT 51741 |
| R4 | 000047 | Resistor, Carbon 150 ohm 1/4W ± 5% | AAT 51745 |
| R5 | 000051 | Resistor, Carbon 220 ohm 1/4W ± 5% | AAT 51749 |
| R6 | 000053 | Resistor, Carbon 270 ohm 1/4W ± 5% | AAT 51751 |
| R7 | 000055 | Resistor, Carbon 330 ohm 1/4W ± 5% | AAT 51753 |
| R9 | 000059 | Resistor, Carbon 470 ohm 1/4W ± 5% | AAT 51757 |
| R10 | 000061 | Resistor, Carbon 560 ohm 1/4W ± 5% | AAT 51759 |
| R11 | 000067 | Resistor, Carbon 1K ohm 1/4W ± 5% | AAT 51765 |
| R12 | 000097 | Resistor, Carbon 18K ohm 1/4W ± 5% | AAT 51771 |

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| R13 | 000101 | Resistor, Carbon 27K ohm 1/4W ± 5% | AAT 51775 |
| R14 | 000103 | Resistor, Carbon 33K ohm 1/4W ± 5% | AAT 51801 |
| R15 | 000105 | Resistor, Carbon 39K ohm 1/4W ± 5% | AAT 51803 |
| R16 | 000107 | Resistor, Carbon 47K ohm 1/4W ± 5% | AAT 51781 |
| R18 | 000113 | Resistor, Carbon 82K ohm 1/4W ± 5% | AAT 51787 |
| R19 | 000091 | Resistor, Carbon 10K ohm 1/4W ± 5% | AAT 51789 |
| R20 | 000095 | Resistor, Carbon 15K ohm 1/4W ± 5% | AAT 51793 |
| R21 | 000098 | Resistor, Carbon 20K ohm 1/4W ± 5% | AAT 51796 |
| R22 | 000099 | Resistor, Carbon 22K ohm 1/4W ± 5% | AAT 51797 |
| R23 | 000102 | Resistor, Carbon 30K ohm 1/4W ± 5% | AAT 51800 |
| R24 | 000103 | Resistor, Carbon 33K ohm 1/4W ± 5% | AAT 51724 |
| R25 | 000105 | Resistor, Carbon 39K ohm 1/4W ± 5% | AAT 51725 |
| R26 | 000107 | Resistor, Carbon 47K ohm 1/4W ± 5% | AAT 51805 |
| R27 | 000115 | Resistor, Carbon 100K ohm 1/4W ± 5% | AAT 51813 |
| R28 | 000117 | Resistor, Carbon 120K ohm 1/4W ± 5% | AAT 51815 |
| IC14 | 076058 | IC 74LS155 | AAT 33110 |
| IC15 | 076103 | IC 74LS273 | AAT 33170 |
| IC16 | 076119 | IC 74LS367 | AAT 33203 |
| IC17 | 076122 | IC 74LS374 | AAT 33209 |
| IC18 | 076155 | IC 74LS220 | AAT 33220 |
| CPU | 076506 | CPU | AAT 34021 |
| IC19 | 076501 | C-MOS CD4016A | AAT 36017 |
| IC20 | 15-44066001 | C-MOS CD4066B | AAT 36067 |
| ROM 1 | 886M07 | P-ROM (2532) 6M07 | 6M0 90011 |
| ROM 2 | 896M08 | P-ROM (2532) 6M08 | 6M0 90012 |
| C1 | 88130 | Cap,. Electrolytic 25VB-47 | AAT 41035 |
| C2 | 88106 | Cap, Electrolytic 25VB-100 | AAT 41036 |
| C3 | 88131 | Cap, Electrolytic 25VB-220 | AAT 41037 |
| C4 | 88107 | Cap, Film TDY-1H-102 | AAT 41232 |
| C5 | 88132 | Cap, Film TDY-1H-222 | AAT 41234 |
| C6 | 88133 | Cap, Film TDY-1H-472 | AAT 41236 |
| C7 | 88134 | Cap, Film TDY-1H-103 | AAT 41238 |
| C8 | 88135 | Cap, Film TDY-1H-223 | AAT 41240 |
| C9 | 8889 | Cap, Film TDY-1H-104 | AAT 41244 |
| C10 | 88136 | Cap, Cermic DT-200 22P | AAT 41302 |
| C11 | 88137 | Cap, Cermic DT-200 42P | AAT 41310 |

# SOUND PC BOARD

## FIGURE 21

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| C12 | 025027 | Cap, Cermic DT-203 180P | AAT 41324 |
| C13 | 025024 | Cap, Cermic DT-205 470P | AAT 41334 |
| C14 | 88138 | Cap, Tantalum SSG25-10F | AAT 41430 |
| C15 | 88139 | Cap, Tantalum SSG35-OR1F | AAT 41431 |
| C16 | 88140 | Cap, Tantalum SSG35-1F | AAT 41436 |
| C17 | 88141 | Cap, Tantalum SSG35-2R2F | AAT 41437 |
| R29 | 000119 | Resistor, Carbon 150K ohm $^1/_4$W ± 5% | AAT 51817 |
| R30 | 000121 | Resistor, Carbon 180K ohm $^1/_4$W ± 5% | AAT 51819 |
| R31 | 000123 | Resistor, Carbon 220K ohm $^1/_4$W ± 5% | AAT 51821 |
| R32 | 000123 | Resistor, Carbon 220K ohm $^1/_4$W ± 5% | AAT 51823 |
| R33 | 000127 | Resistor, Carbon 330K ohm $^1/_4$W ± 5% | AAT 51825 |
| R34 | 000129 | Resistor, Carbon 390K ohm $^1/_4$W ± 5% | AAT 51827 |
| R35 | 000131 | Resistor, Carbon 470K ohm $^1/_4$W ± 5% | AAT 51829 |
| R36 | 000133 | Resistor, Carbon 560K ohm $^1/_4$W ± 5% | AAT 51831 |
| R37 | 000135 | Resistor, Carbon 680K ohm $^1/_4$W ± 5% | AAT 57833 |
| R38 | 000139 | Resistor, Carbon 1M ohm $^1/_4$W ± 5% | AAT 51837 |
| R39 | 000145 | Resistor, Carbon 1.8M ohm $^1/_4$W ± 5% | AAT 51843 |
| R40 | 000147 | Resistor, Carbon 2.2M ohm $^1/_4$W ± 5% | AAT 51845 |
| R41 | 000149 | Resistor, Carbon 2.7M ohm $^1/_4$W ± 5% | AAT 51847 |
| R42 | 000151 | Resistor, Carbon 3.3M ohm $^1/_4$W ± 5% | AAT 51849 |
| R43 | 000172 | Resistor, Carbon 47M ohm $^1/_4$W ± 5% | AAT 51853 |
| R44 | 000095 | Resistor, Carbon 15K ohm $^1/_4$W ± 5% | AAT 51968 |
| R45 | 000102 | Resistor, Carbon 30K ohm $^1/_4$W ± 5% | AAT 51969 |
| R46 | 000139 | Resistor, Carbon 1M ohm $^1/_4$W ± 5% | AAT 51971 |
| VR1 | 88149 | Variable Resistor B-50K | AAT 53047 |
| RB | 997631 | Resistor Block Lk-8 elements | AAT 55036 |
| VR2 | 88149 | Variable Resistor B-50K | AAT 53041 |
| IC33 | 076119 | LS - IC 74LS367 | AAT 33203 |
| IC34 | 076129 | LS - IC 74LS393 | AAT 33220 |
| CPU | 077002 | CPU 2-80A | AAT 34008 |
| IC35 | 88123 | C-MOS MC14584 | AAT 36105 |
| IC36 | 88124 | Custom IC PC3259 | AAT 37003 |

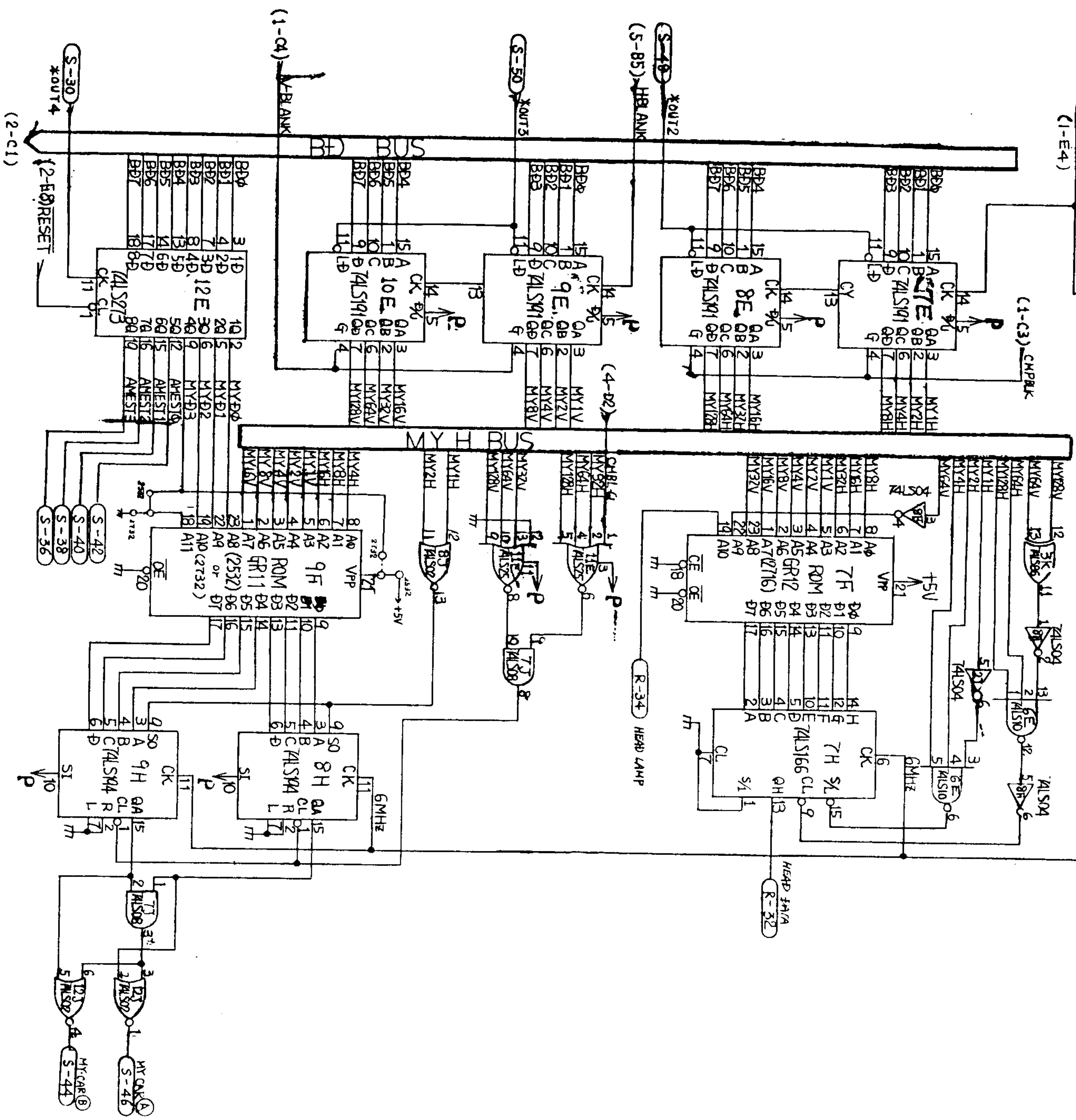
| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| ROM 1 | 88GR10 | P-ROM (2716) GR10 | GRO 90020 |
| ROM 2 | 88GR13 | P-ROM (2532) GR13 | GRO 90023 |
| ROM 3 | 88GR14 | P-ROM (2532) GR14 | GRO 90024 |
| ROM 4 | 88GR15 | P-ROM (2532) GR15 | GRO 90025 |
| ROM 5 | 88GR16 | P-ROM (2532) GR16 | GRO 90026 |
| ROM 6 | 88GR19 | P-ROM (2532) GR19 | GRO 90029 |
| ROM 7 | 88GR20 | P-ROM (2532) GR20 | GRO 90030 |
| ROM 8 | 88GR21 | P-ROM (2532) GR21 | GRO 90031 |
| ROM 9 | 88GR22 | P-ROM (2532) GR22 | GRO 90032 |
| ROM 10 | 88GR23 | P-ROM (74LS288) GR23 | GRO 90033 |
| ROM 11 | 88GM09 | P-ROM (2532) 6M09 | GMO 90013 |
| ROM 12 | 88GM10 | P-ROM (2532) 6M10 | GMO 90014 |
| C1 | 88106 | Capacitor, Electrolytic 25VP100 | AAT 41036 |
| C2 | 88107 | Capacitor, Film TDY-1H-102 | AAT 41232 |
| C3 | 88150 | Capacitor, Film TDY-1H-332 | AAT 41235 |
| C4 | 88151 | Capacitor, Film TDY-1H-103 | AAT 41238 |
| C5 | 88152 | Capacitor, Film TDY-1H-333 | AAT 41241 |
| C6 | 8889 | Capacitor, Film TDY-1H-104 | AAT 41244 |
| C7 | 025027 | Capacitor, Ceramic DT-203 180P | AAT 41324 |
| C8 | 88153 | Capacitor, Tantalum SSG25-1F | AAT 41425 |
| C9 | 88154 | Capacitor, Tantalum SSG25-4R7F | AAT 41428 |
| C10 | 88155 | Capacitor, Tantalum SSG25-10F | AAT 41430 |
| C11 | 88156 | Capacitor, Tantalum SSG25-OR1F | AAT 41431 |
| R1 | 001090 | Resistor, Carbon 100K ohm $^1/_2$W ± 5% | AAT 51455 |
| R2 | 000091 | Resistor, Carbon 10K ohm $^1/_4$W ± 5% | AAT 51717 |
| R3 | 000115 | Resistor, Carbon 100K ohm $^1/_4$W ± 5% | AAT 51741 |
| R4 | 000123 | Resistor, 220K ohm $^1/_4$W ± 5% | AAT 51749 |
| R5 | 000125 | Resistor, 270K ohm $^1/_4$W ± 5% | AAT 51751 |
| R6 | 000129 | Resistor, 390K ohm $^1/_4$W ± 5% | AAT 51755 |
| R7 | 000131 | Resistor, 470K ohm $^1/_4$W ± 5% | AAT 51757 |
| R8 | 000067 | Resistor, 1K ohm $^1/_4$W ± 5% | AAT 51765 |
| R9 | 000074 | Resistor, 2K ohm $^1/_4$W ± 5% | AAT 51772 |
| R10 | 000099 | Resistor, 22K ohm $^1/_4$W ± 5% | AAT 51773 |

**FIGURE 21**

| ITEM | TAITO PART NO. | DESCRIPTION | REFERENCE |
|---|---|---|---|
| R11 | 000079 | Resistor, 3.3K ohm 1/4W ± 5% | AAT 51777 |
| R12 | 000083 | Resistor, Carbon 4.7K ohm 1/4W ± 5% | AAT 51781 |
| R13 | 000091 | Resistor, Carbon 10K ohm 1/4W ± 5% | AAT 51789 |
| R14 | 000099 | Resistor, Carbon 22K ohm 1/4W ± 5% | AAT 51797 |
| R15 | 000101 | Resistor, Carbon 27K ohm 1/4W ± 5% | AAT 51799 |
| R16 | 000107 | Resistor, Carbon 47K ohm 1/4W ± 5% | AAT 51805 |
| R17 | 000129 | Resistor, Carbon 390K ohm 1/4W ± 5% | AAT 51827 |
| R18 | 000133 | Resistor, Carbon 560K ohm 1/4W ± 5% | AAT 51831 |
| R19 | 000139 | Resistor, Carbon 1M ohm 1/4W ± 5% | AAT 51837 |
| VR | 88157 | Variable Resistor, B-2K | AAT 53030 |
| RB | 997631 | Resistor Block, 1 ohm 8 elements | AAT 55036 |

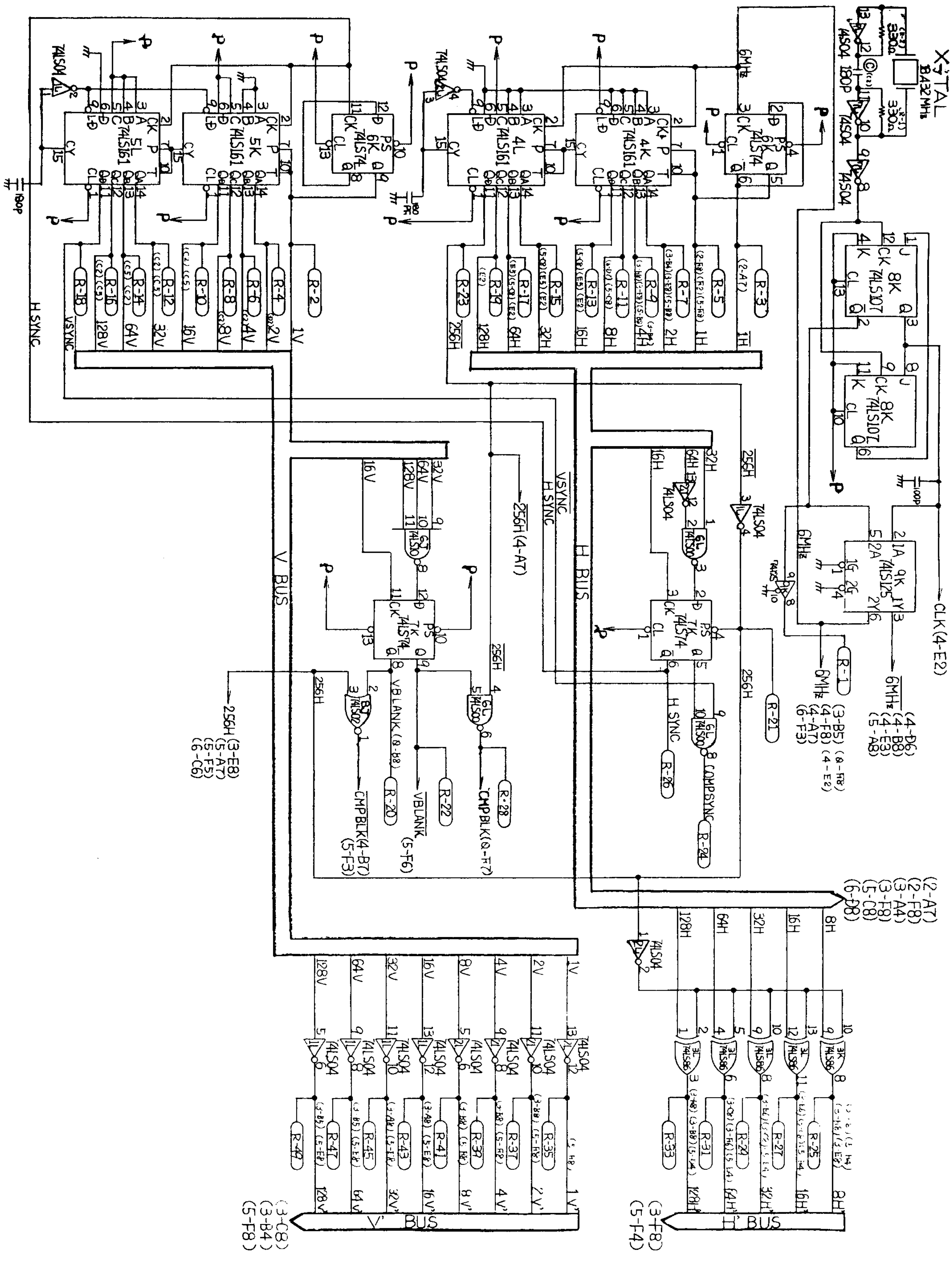
# CPU BOARD SCHEMATIC 1 OF 7

**FIGURE 22**



# CPU BOARD SCHEMATIC 2 OF 7

**FIGURE 23**



# CPU BOARD SCHEMATIC 3 OF 7

## FIGURE 24

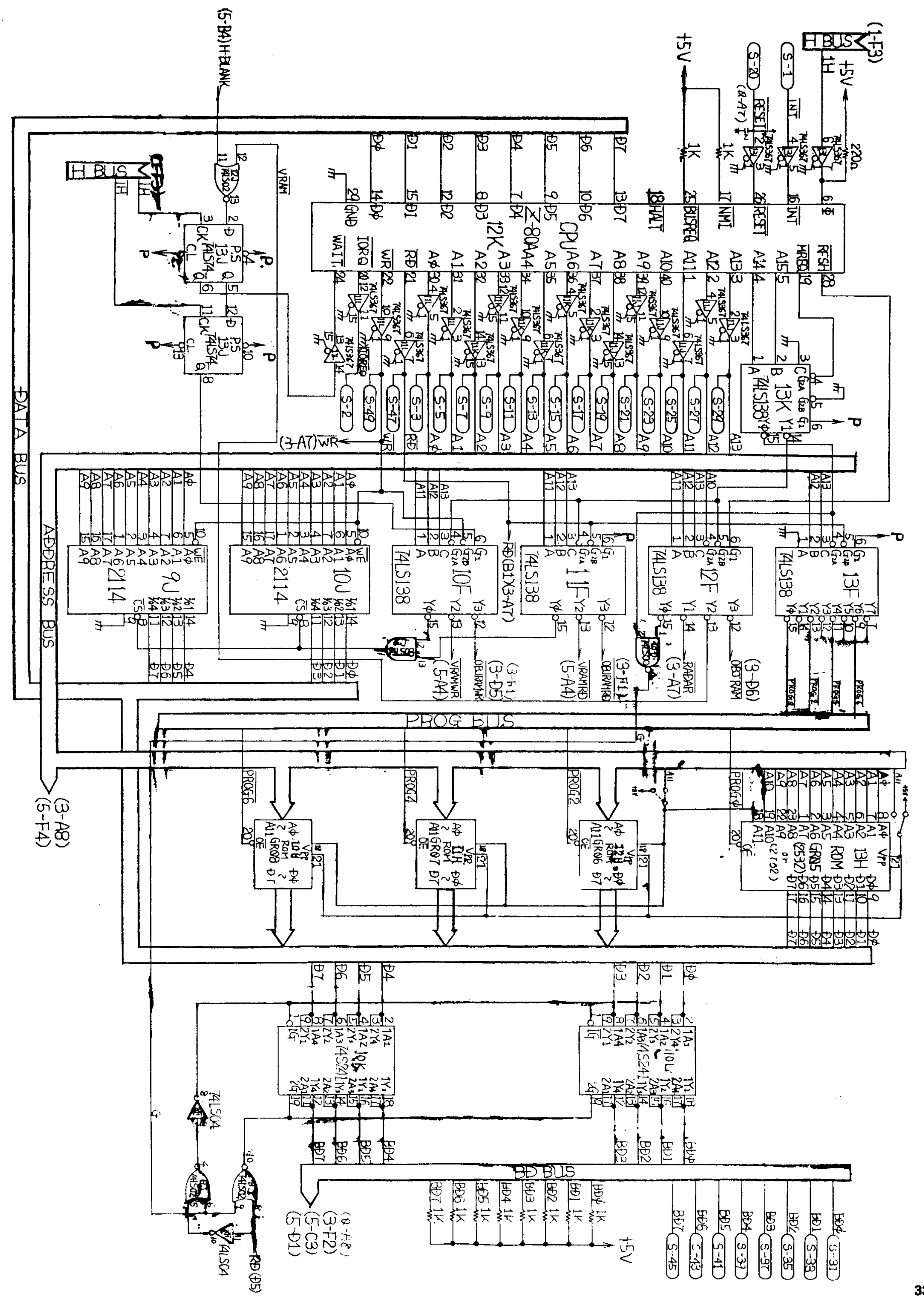
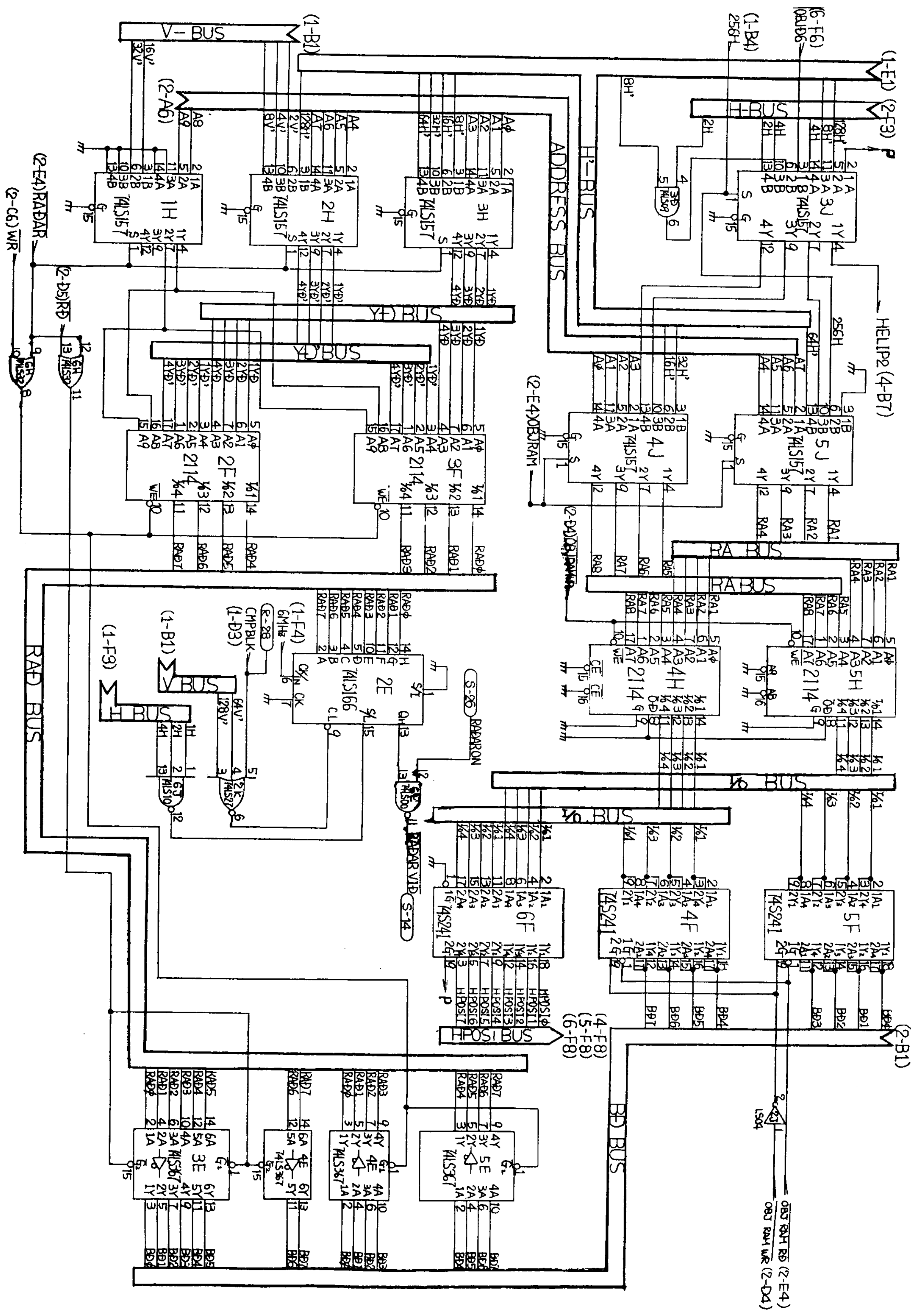
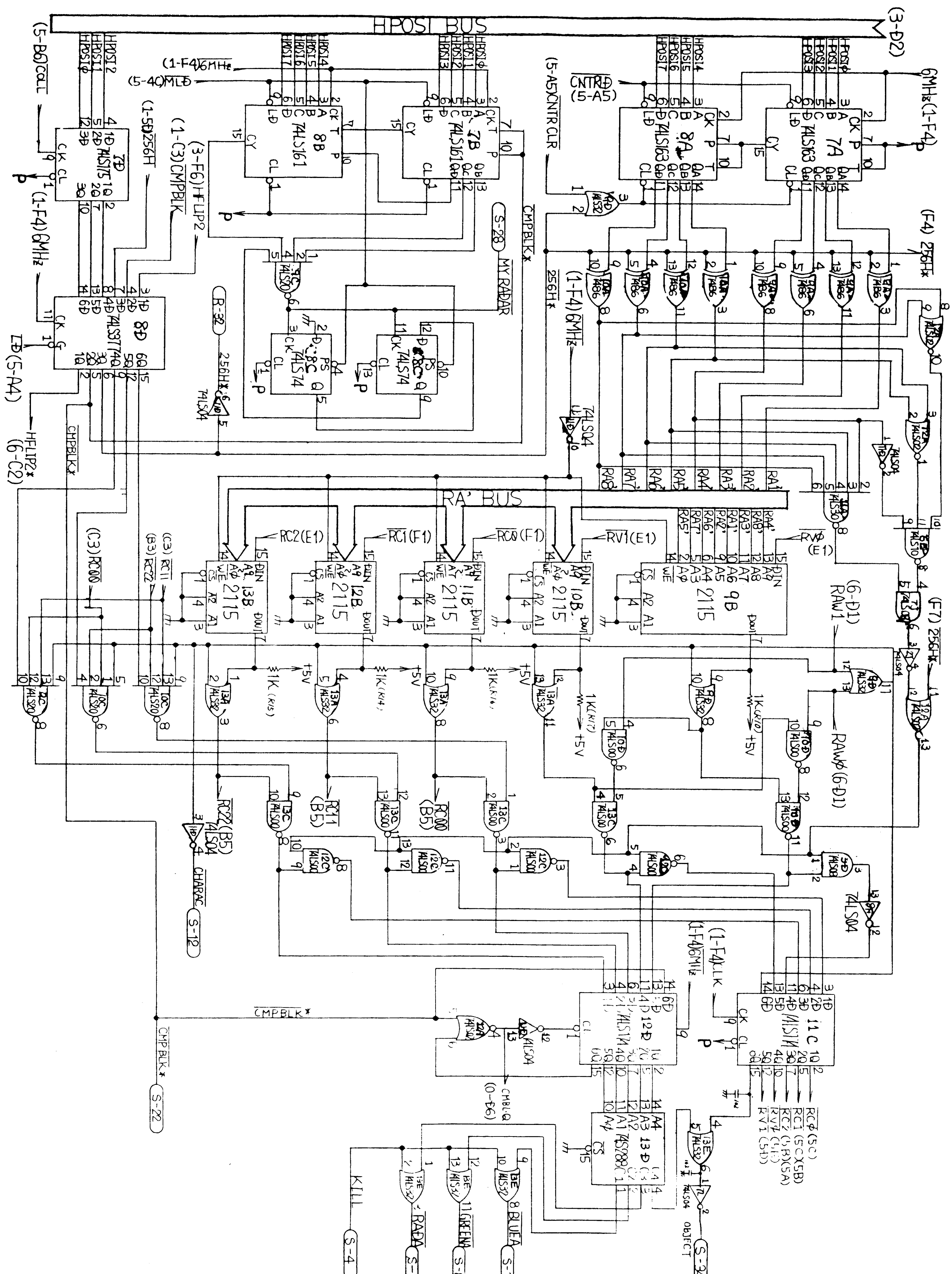


**FIGURE 25**



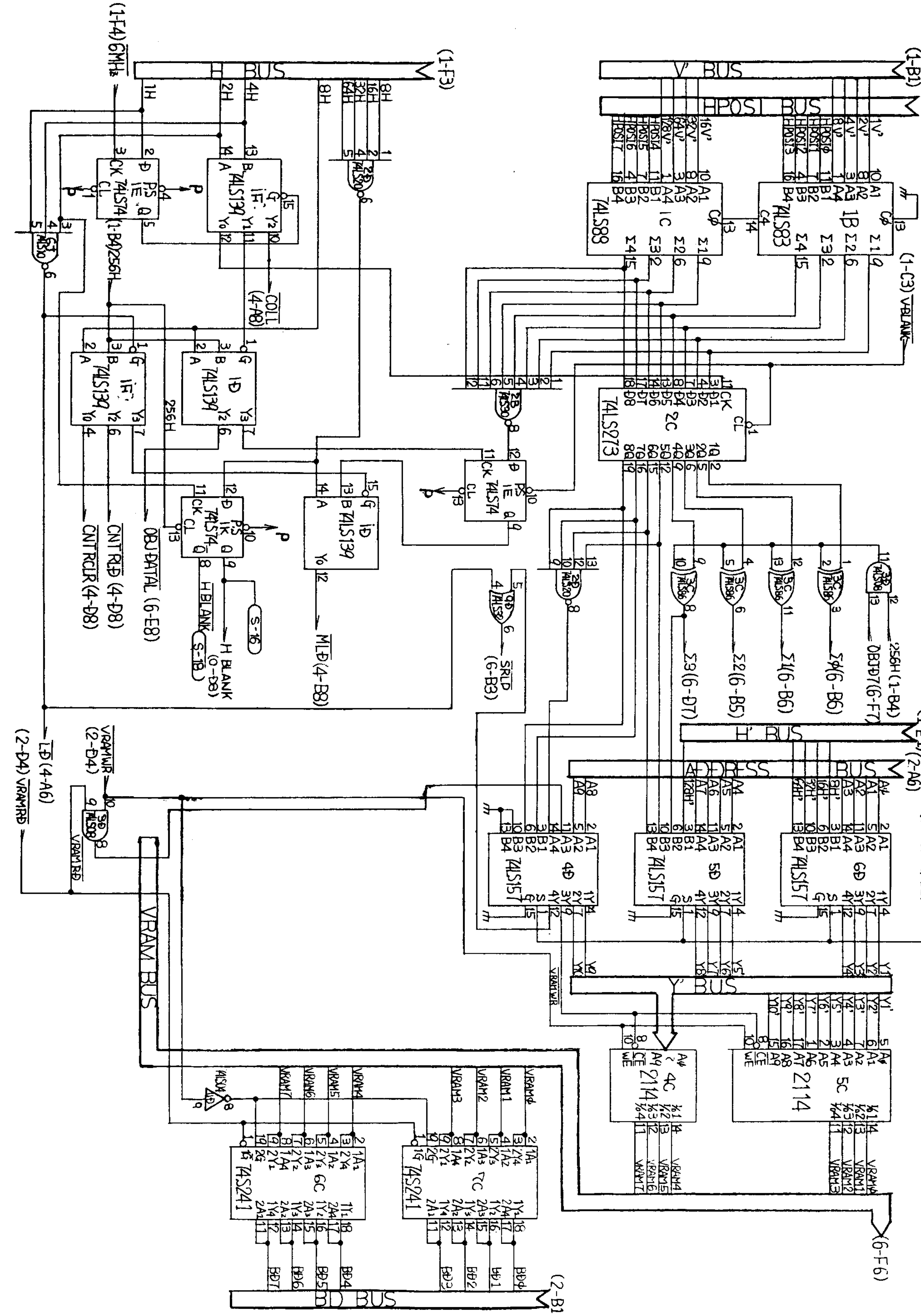
# CPU BOARD SCHEMATIC 5 OF 7

## FIGURE 26



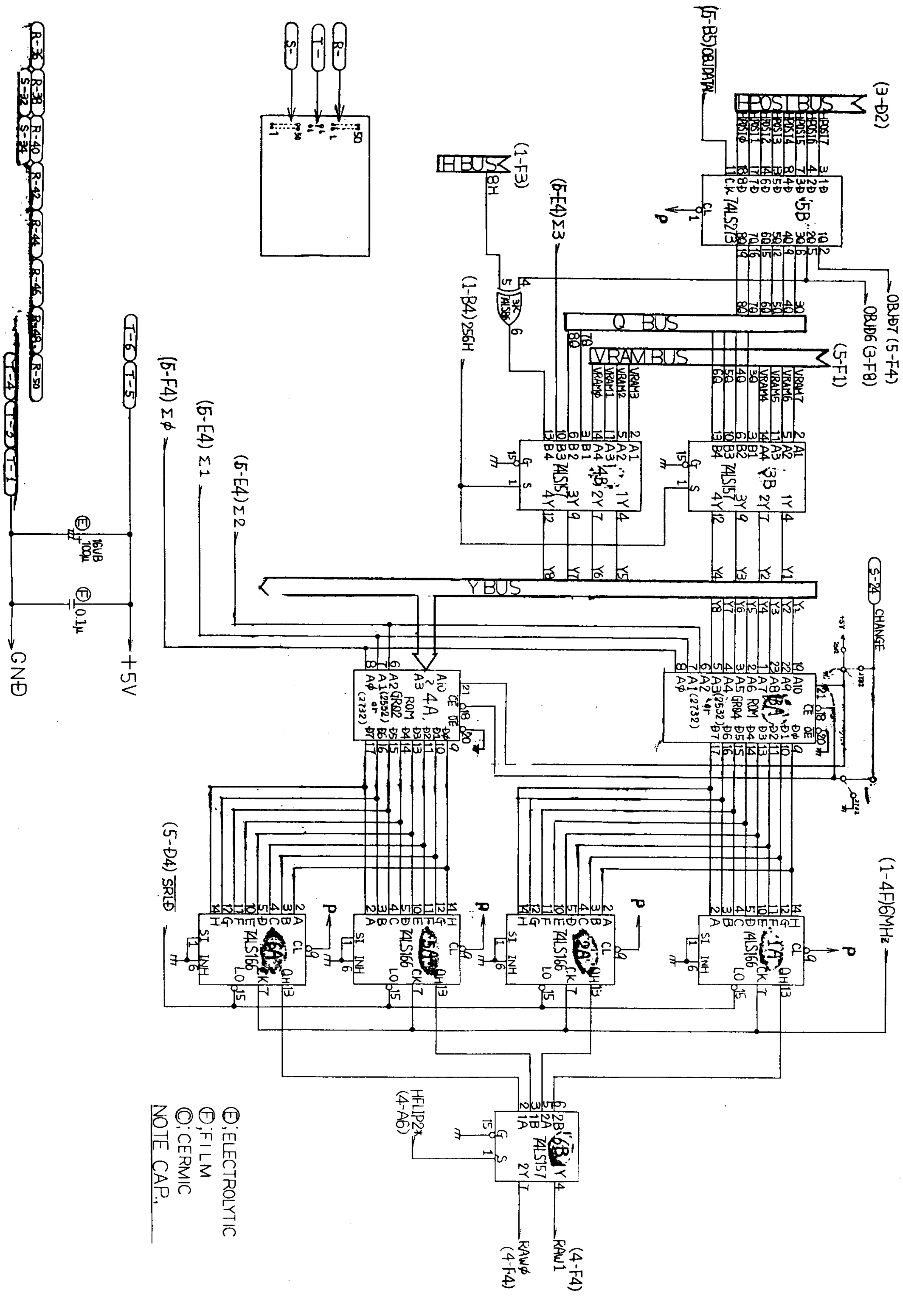
# CPU BOARD SCHEMATIC 6 OF 7

## FIGURE 27



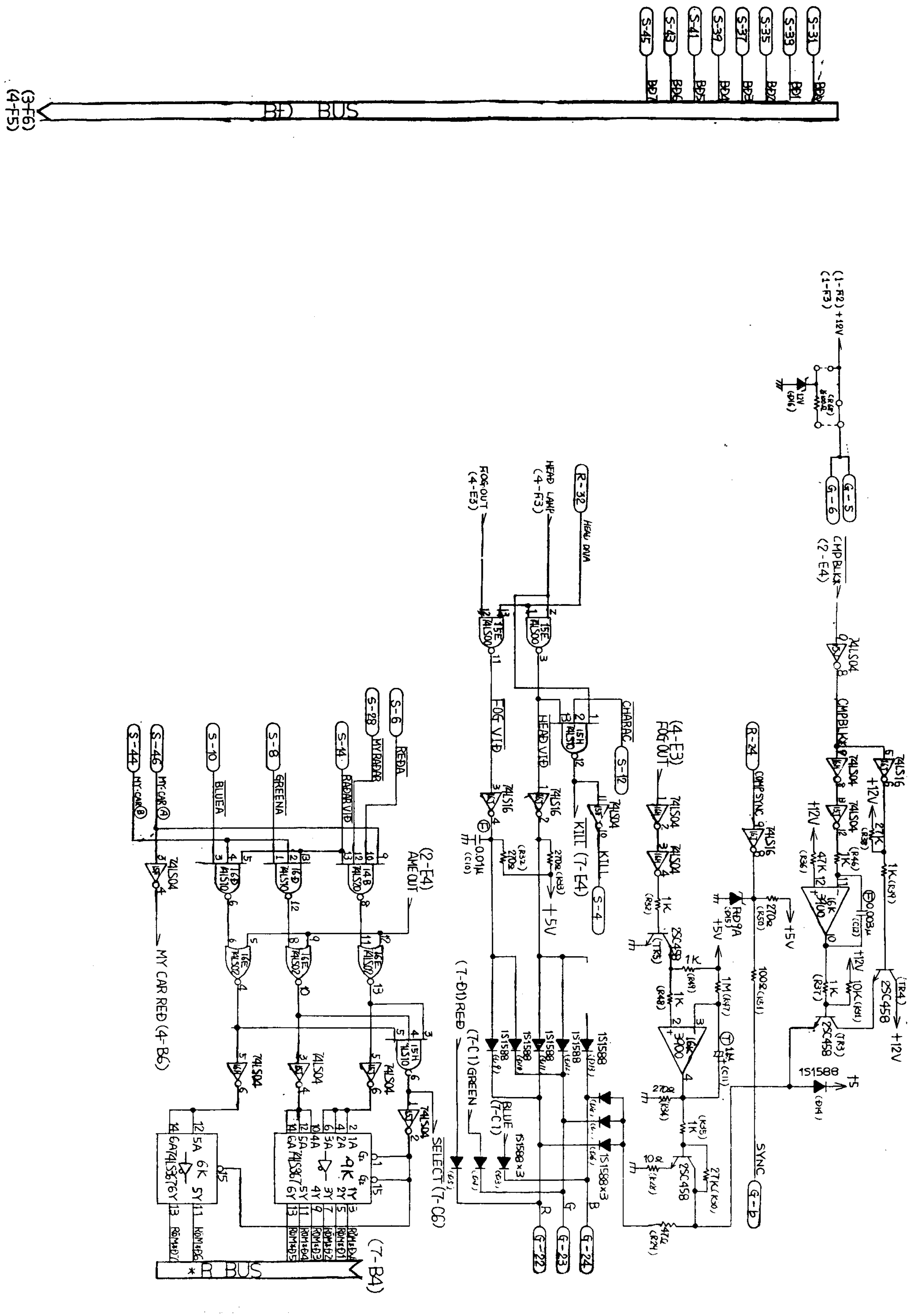
# CPU BOARD SCHEMATIC 7 OF 7

**FIGURE 28**



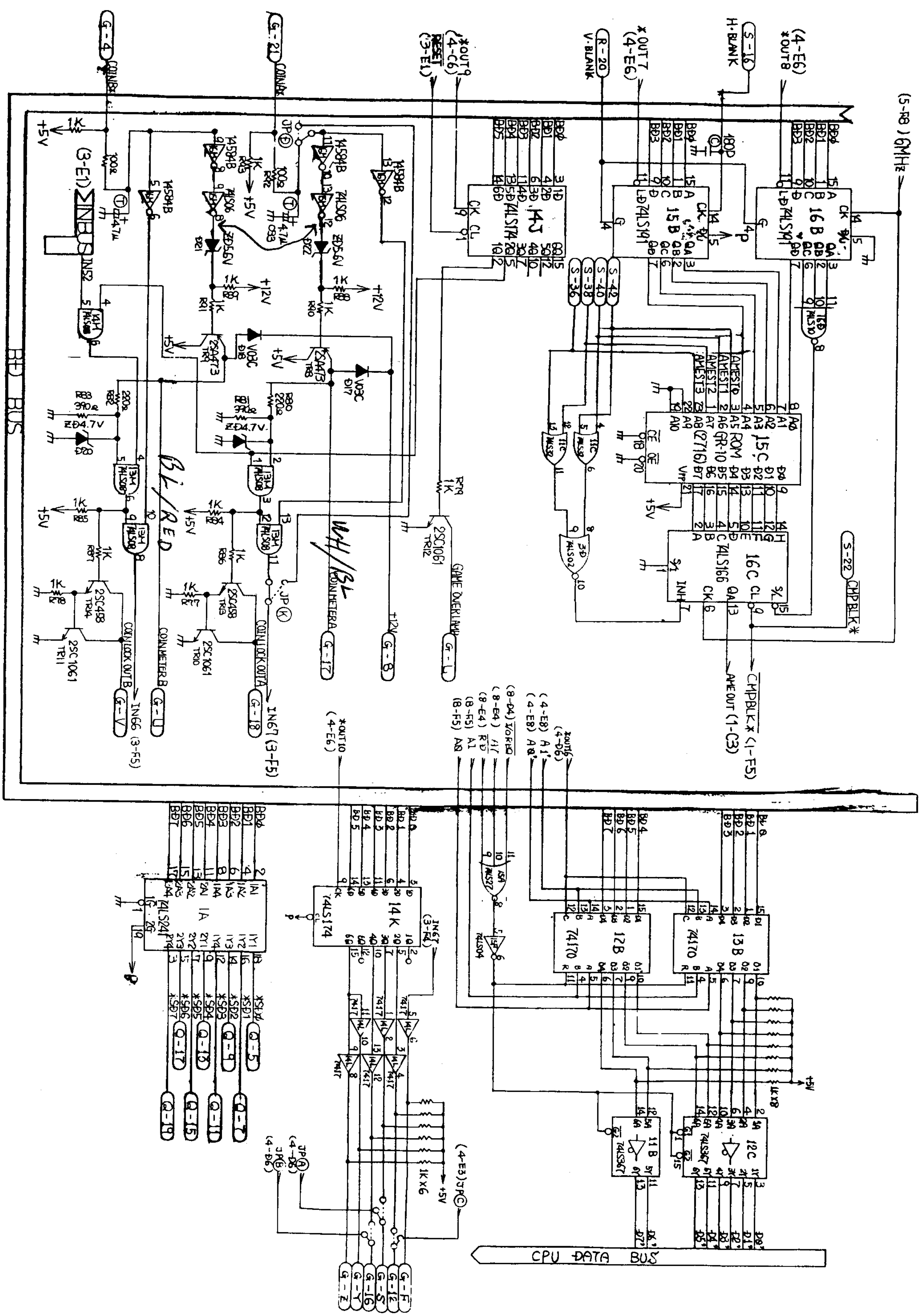
# GAME BOARD SCHEMATIC 1 OF 10

**FIGURE 29**



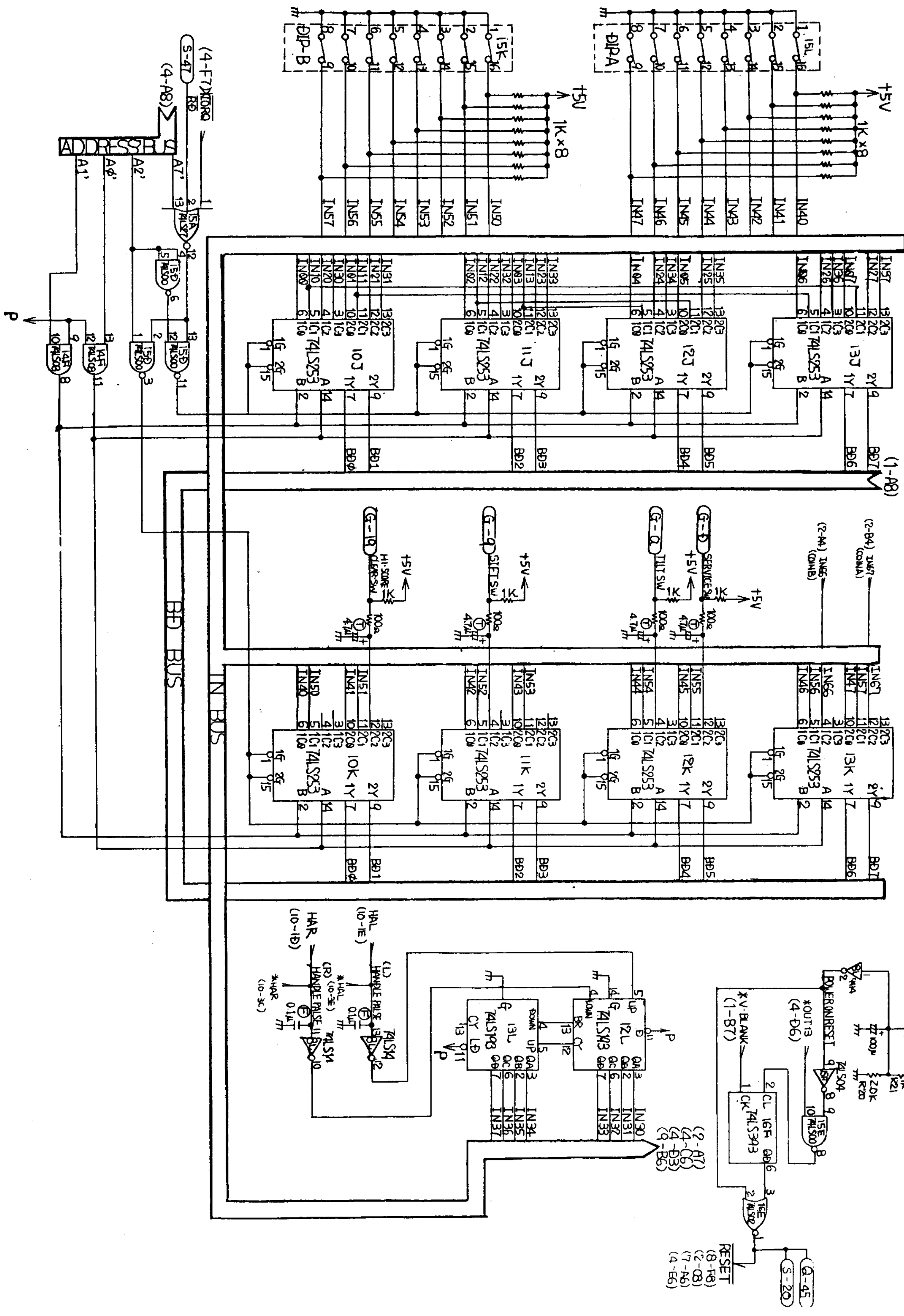
# GAME BOARD SCHEMATIC 2 OF 10

## FIGURE 30



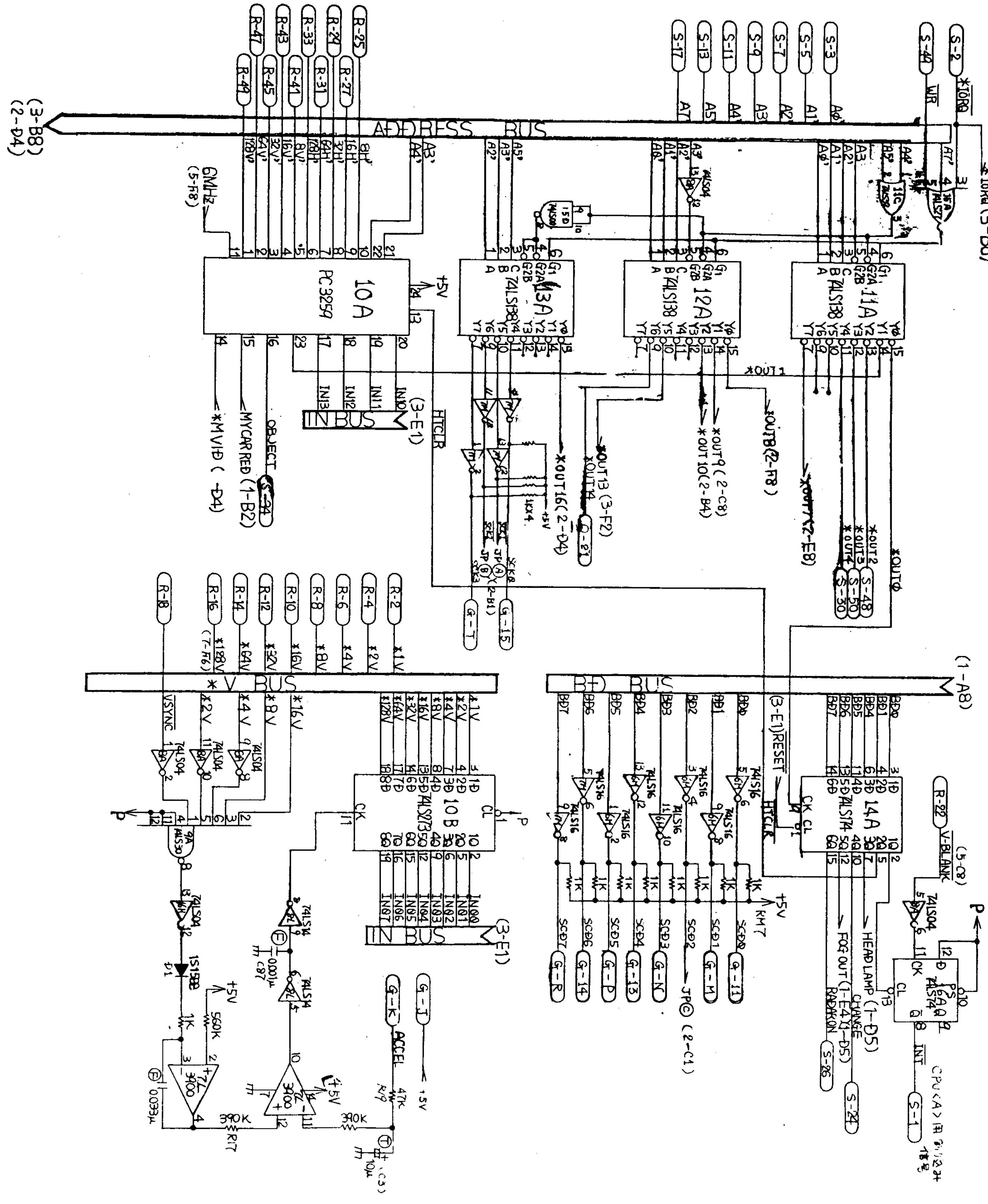
# GAME BOARD SCHEMATIC 3 OF 10

**FIGURE 31**



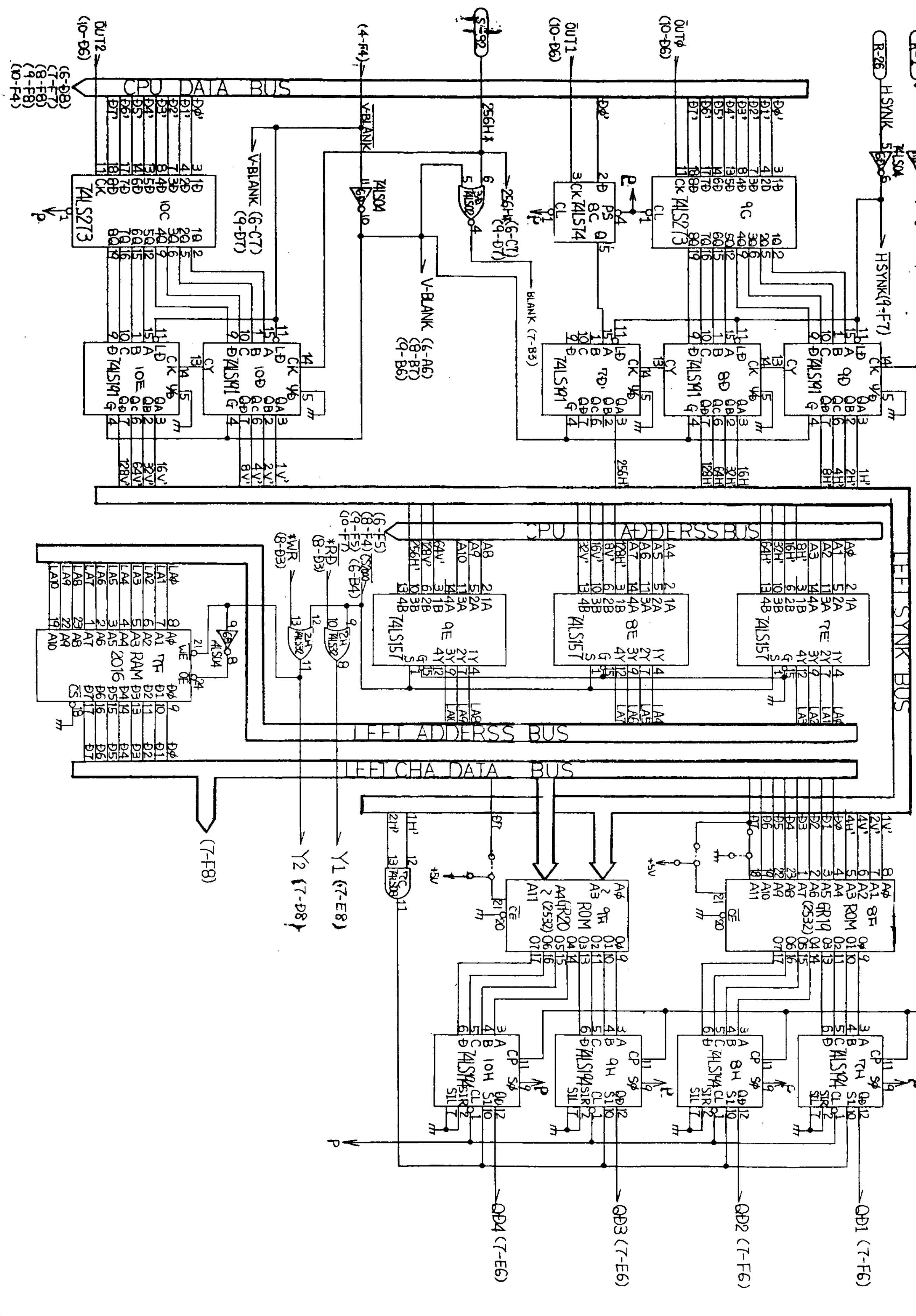
## GAME BOARD SCHEMATIC 4 OF 10

**FIGURE 32**



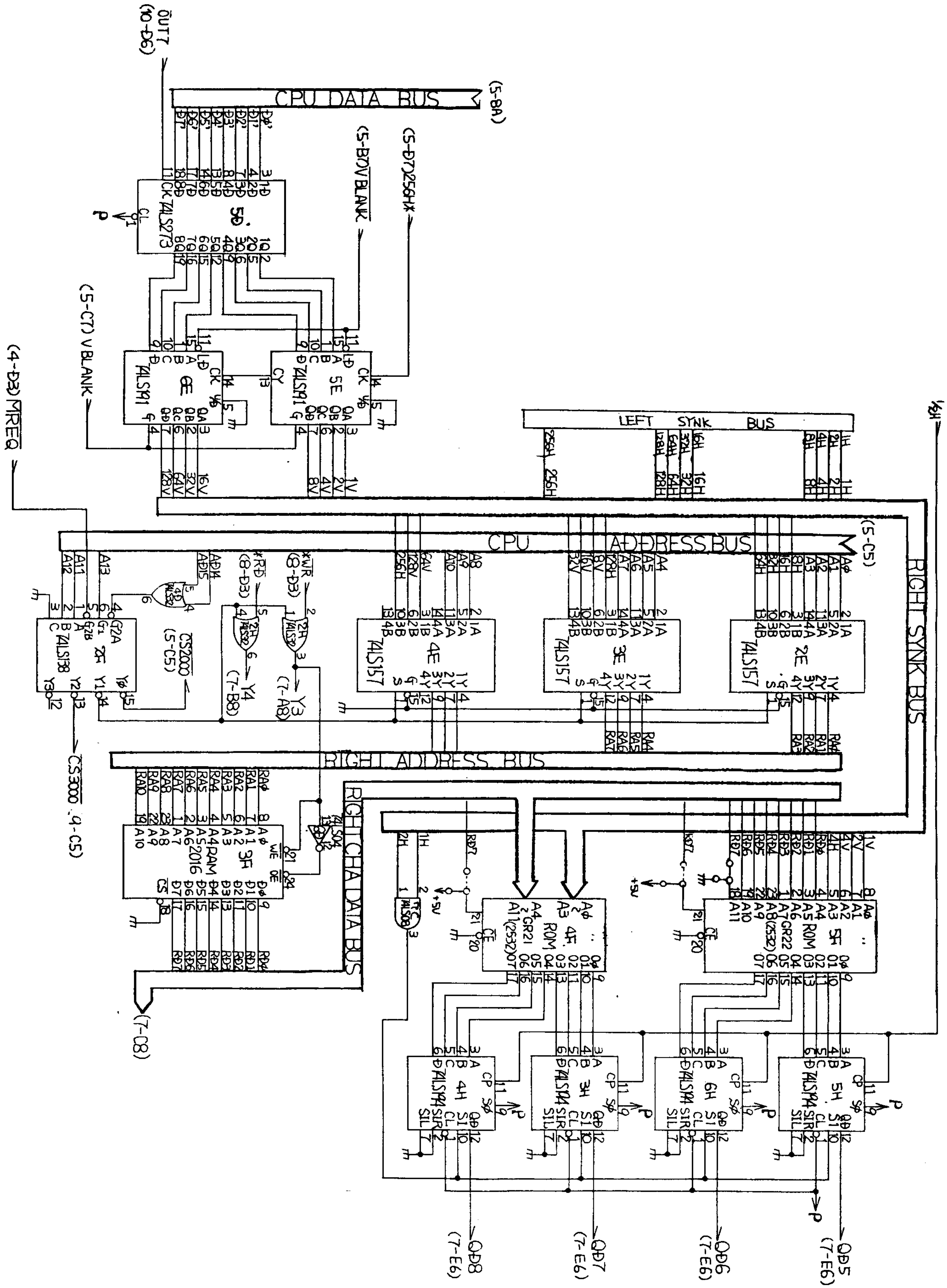
# GAME BOARD SCHEMATIC 5 OF 10

**FIGURE 33**



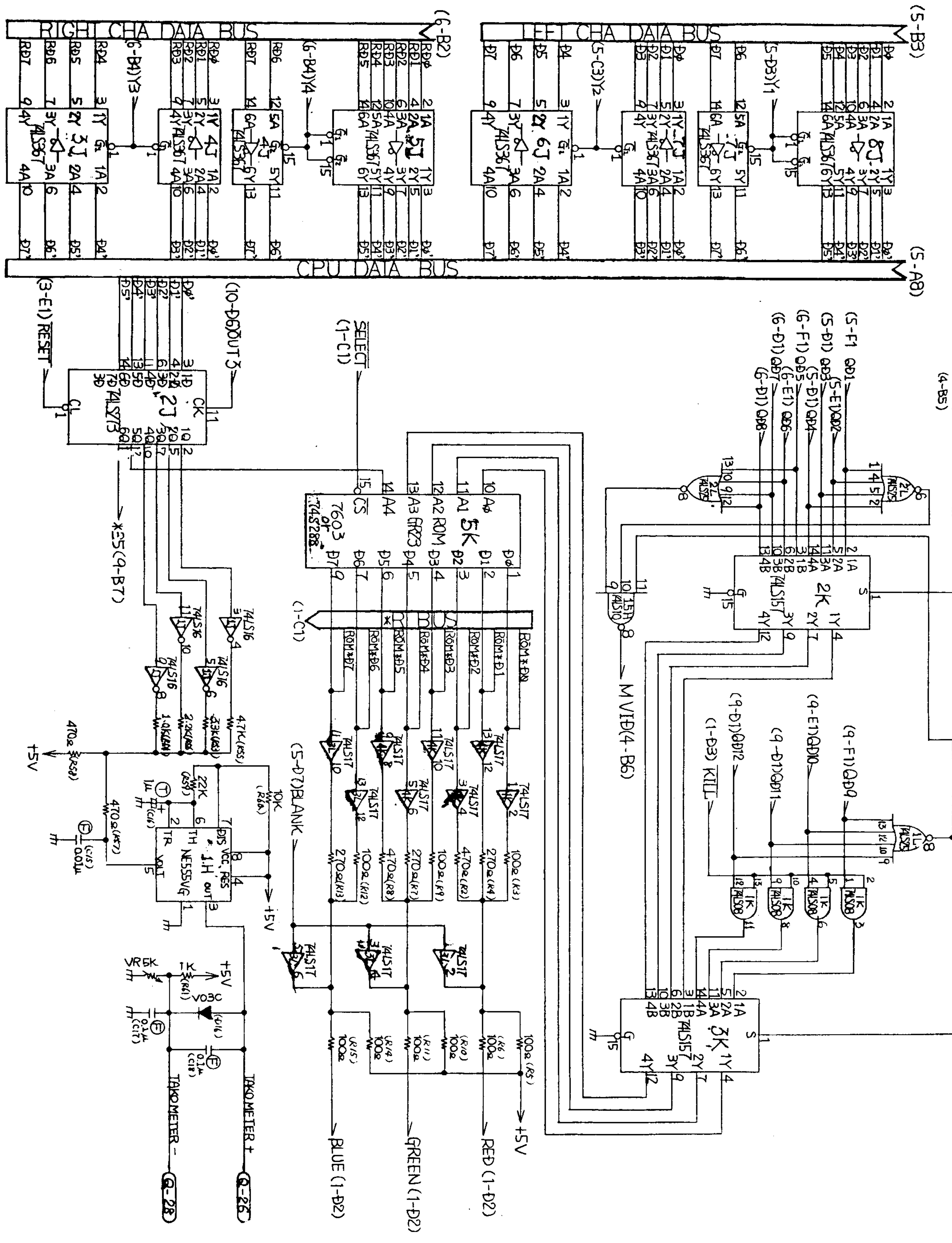
# GAME BOARD SCHEMATIC 6 OF 10

**FIGURE 34**



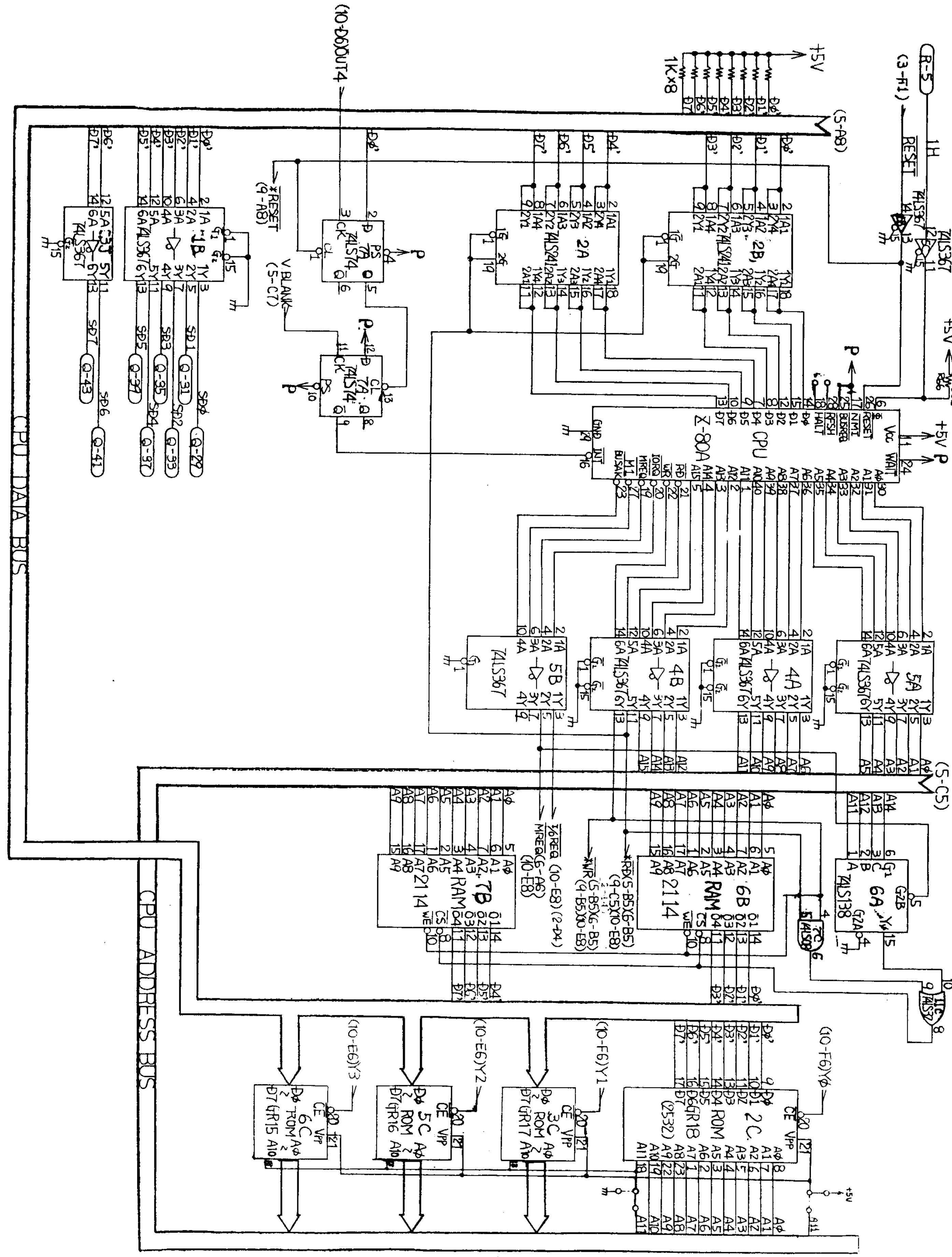
# GAME BOARD SCHEMATIC 7 OF 10

**FIGURE 35**



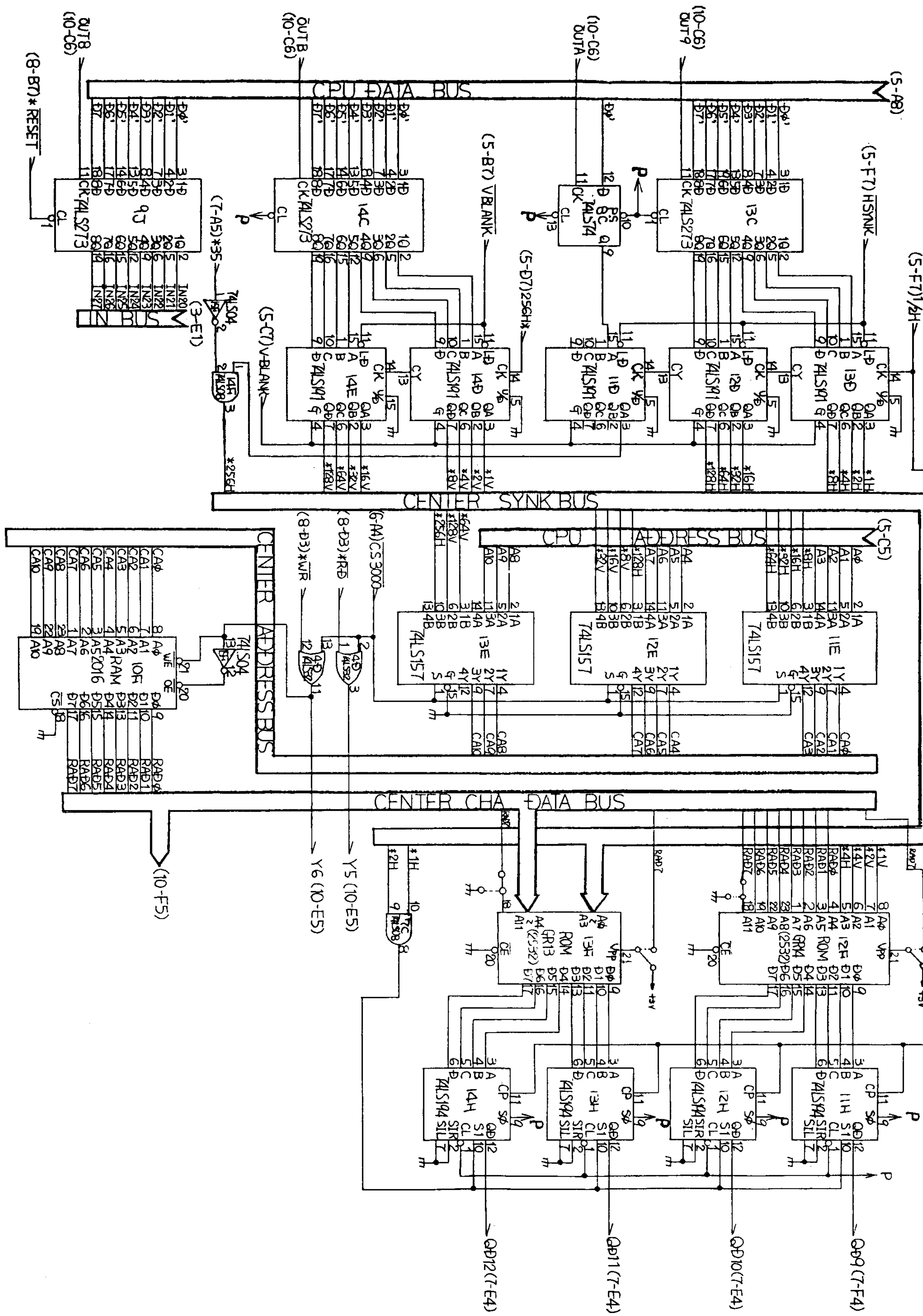
# GAME BOARD SCHEMATIC 8 OF 10

## FIGURE 36



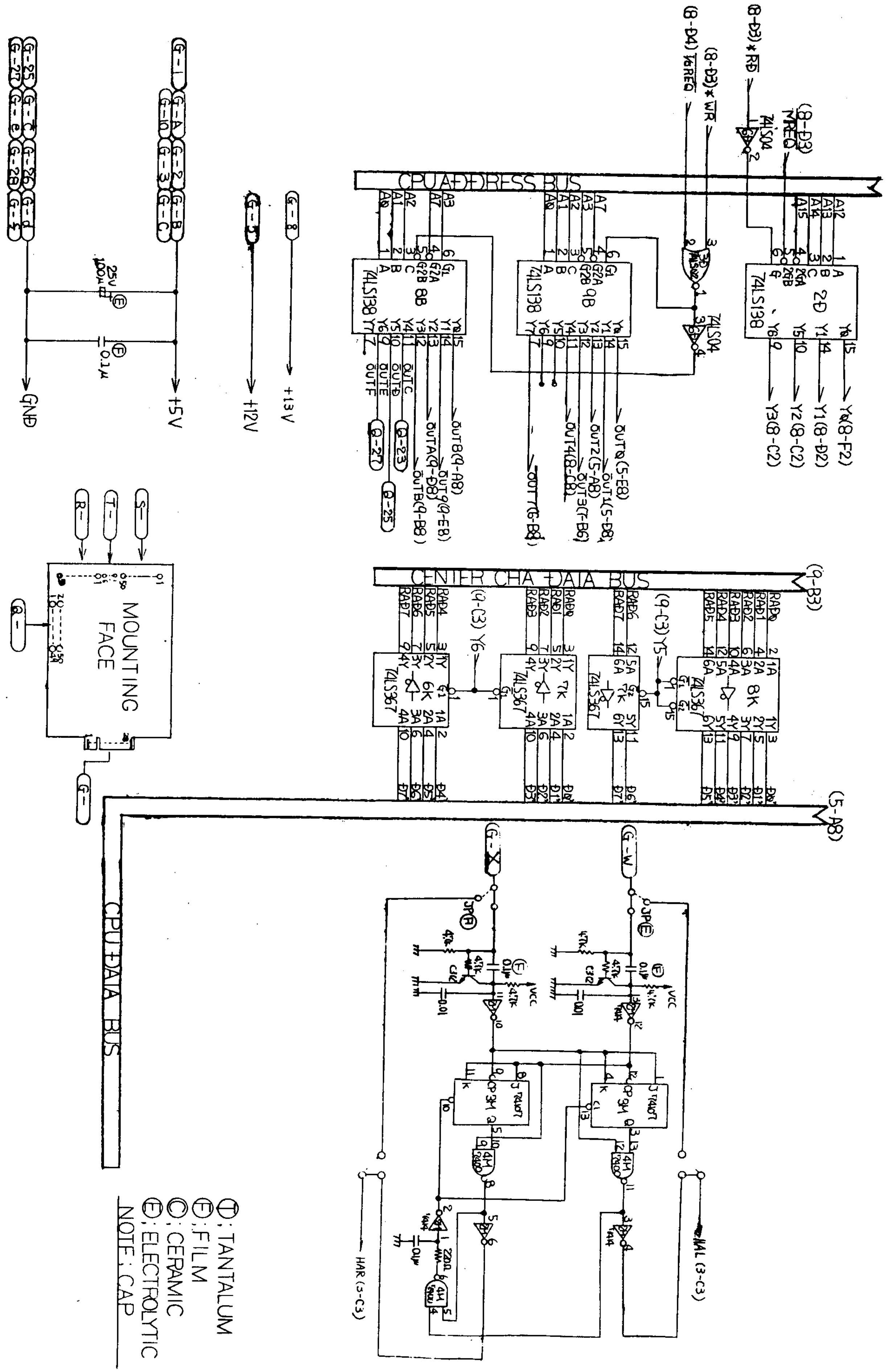
# GAME BOARD SCHEMATIC 9 OF 10

**FIGURE 37**



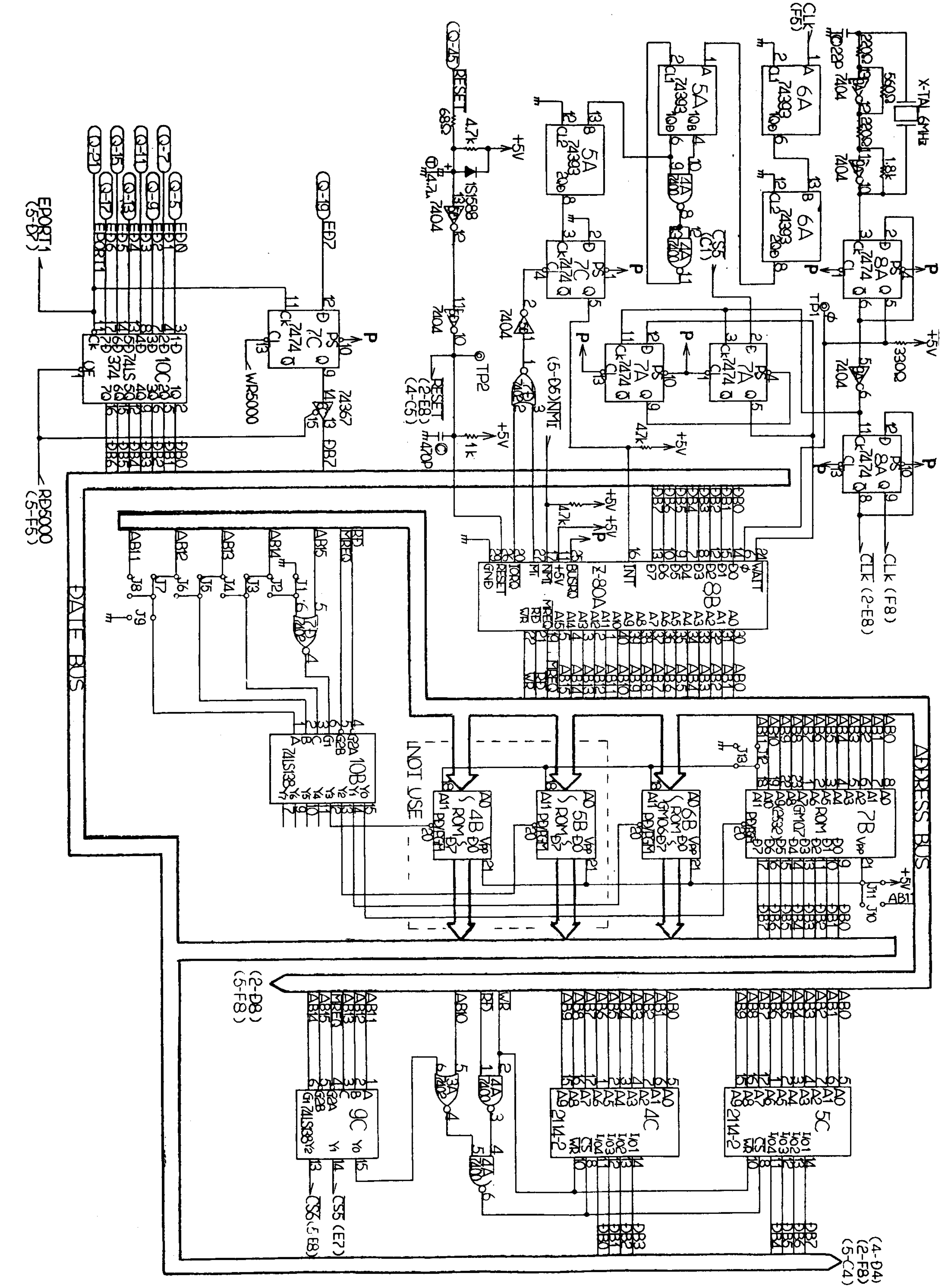
# GAME BOARD SCHEMATIC 10 OF 10

**FIGURE 38**



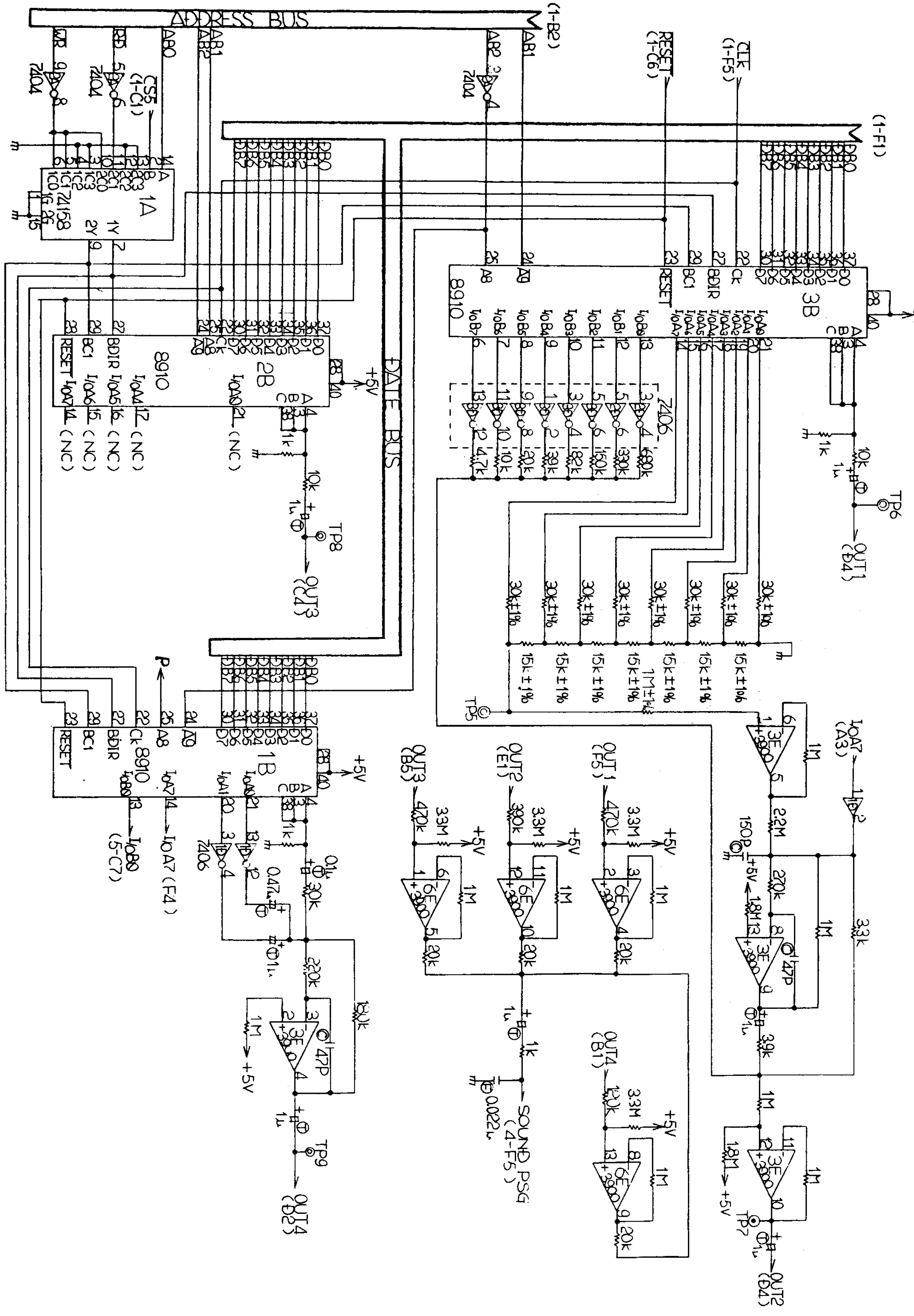
# SOUND BOARD SCHEMATIC 1 OF 5

**FIGURE 39**



# SOUND BOARD SCHEMATIC 2 OF 5

## FIGURE 40



# SOUND BOARD SCHEMATIC 3 OF 5

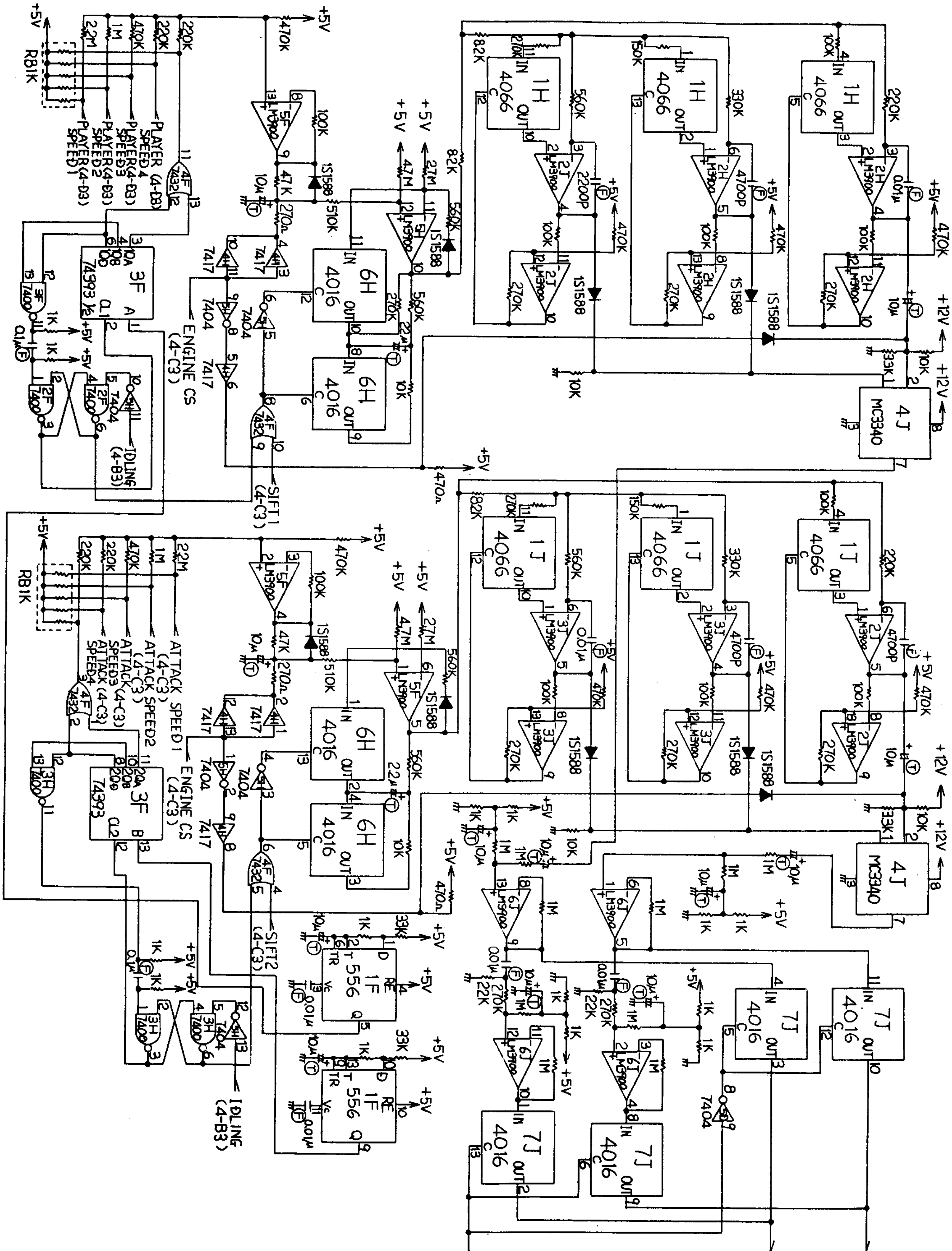


FIGURE 41

# SOUND BOARD SCHEMATIC 4 OF 5

## FIGURE 42

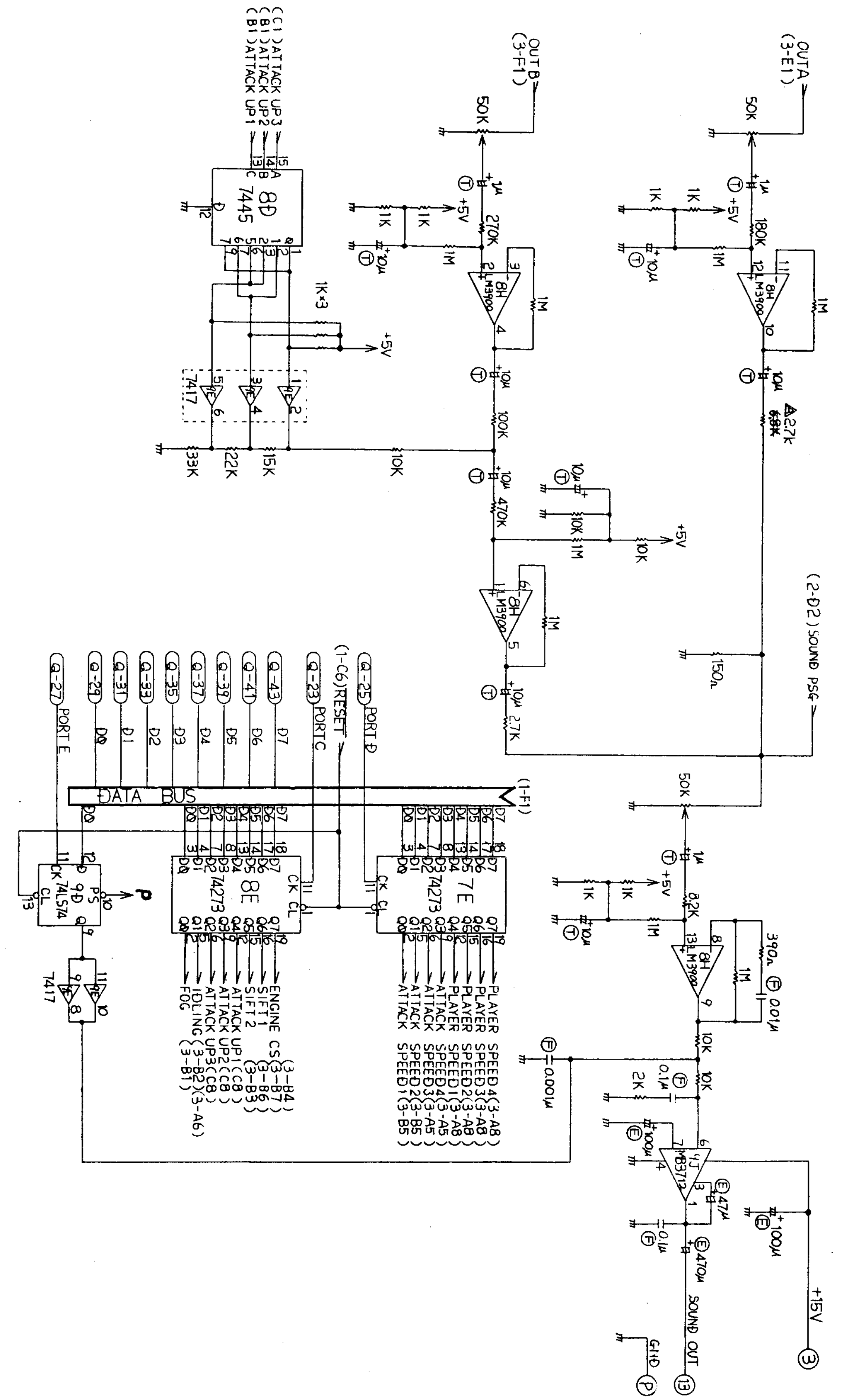
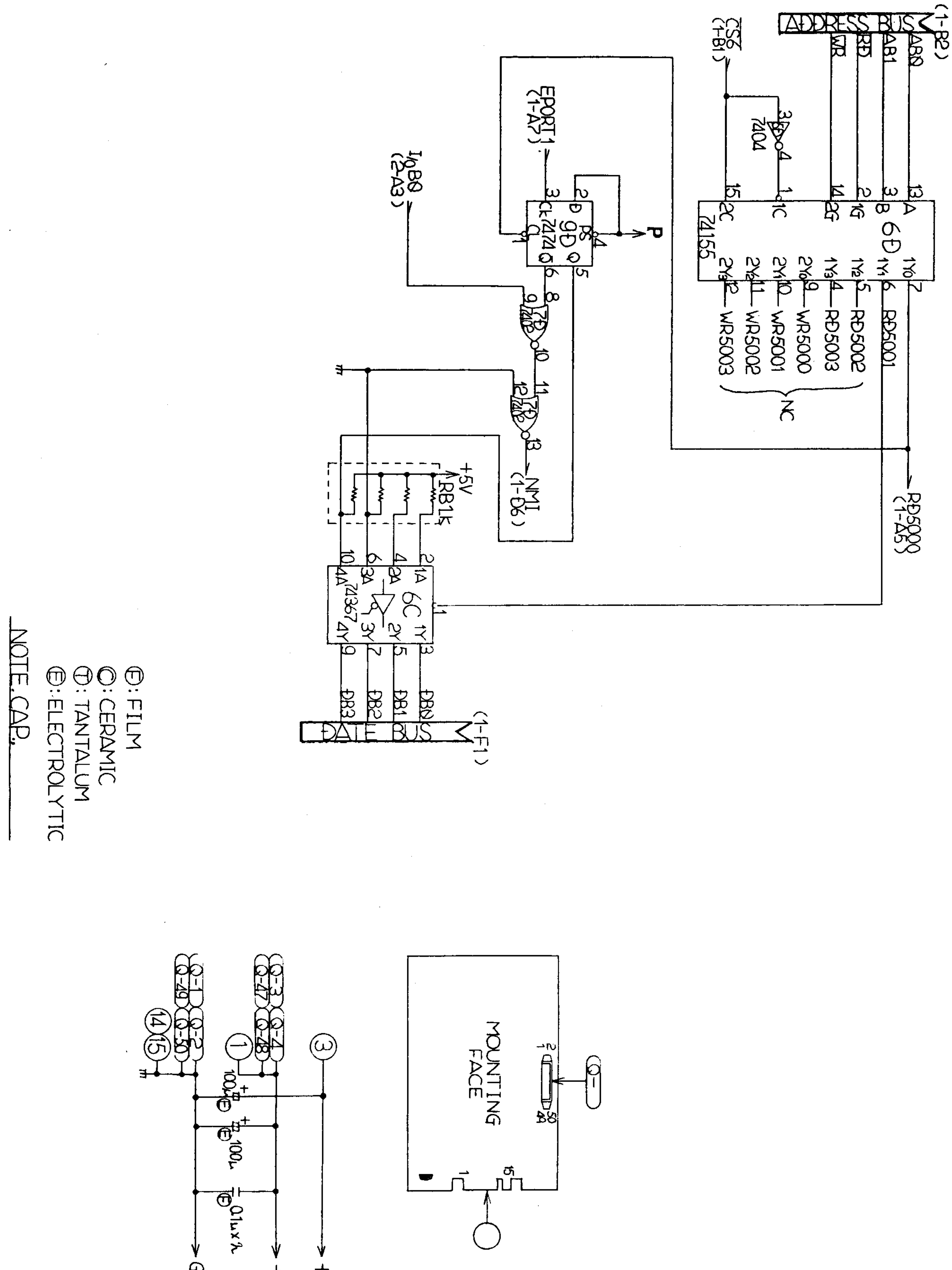
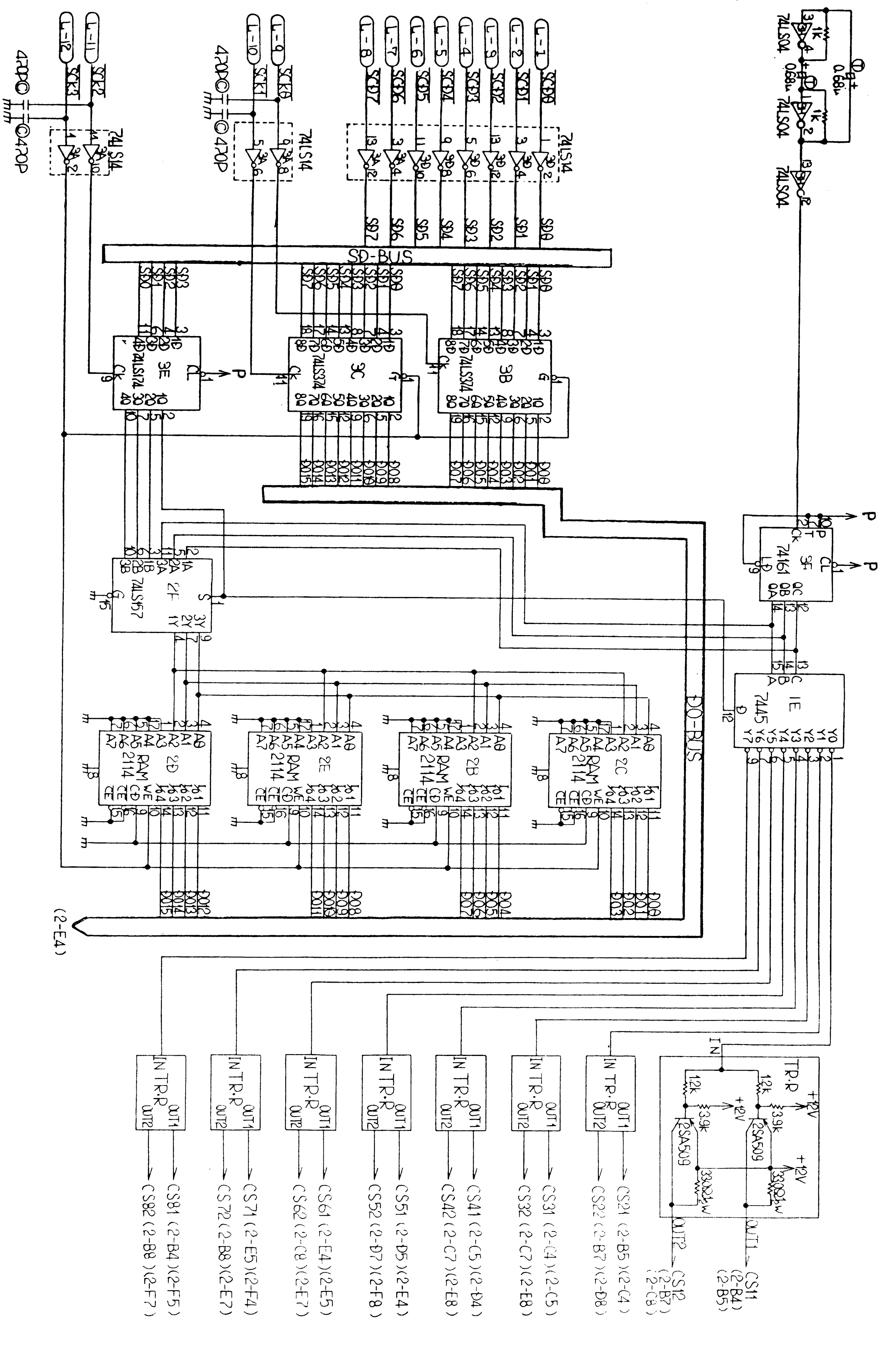


FIGURE 43


ADDRESS BUS
AB0
AB1
RD
WR
CS6
7404
6D
74155
RD5001
RD5002
RD5003
WR5000
WR5001
WR5002
WR5003
NC
RD5000
EPORT1
IoB0
9D
7474
P
NMI
+5V
RB1k
6C
74367
DB0
DB1
DB2
DB3
DATE BUS
NOTE.CAP.
F: FILM
C: CERAMIC
T: TANTALUM
E: ELECTROLYTIC
MOUNTING
FACE
+12V
+5V
GND

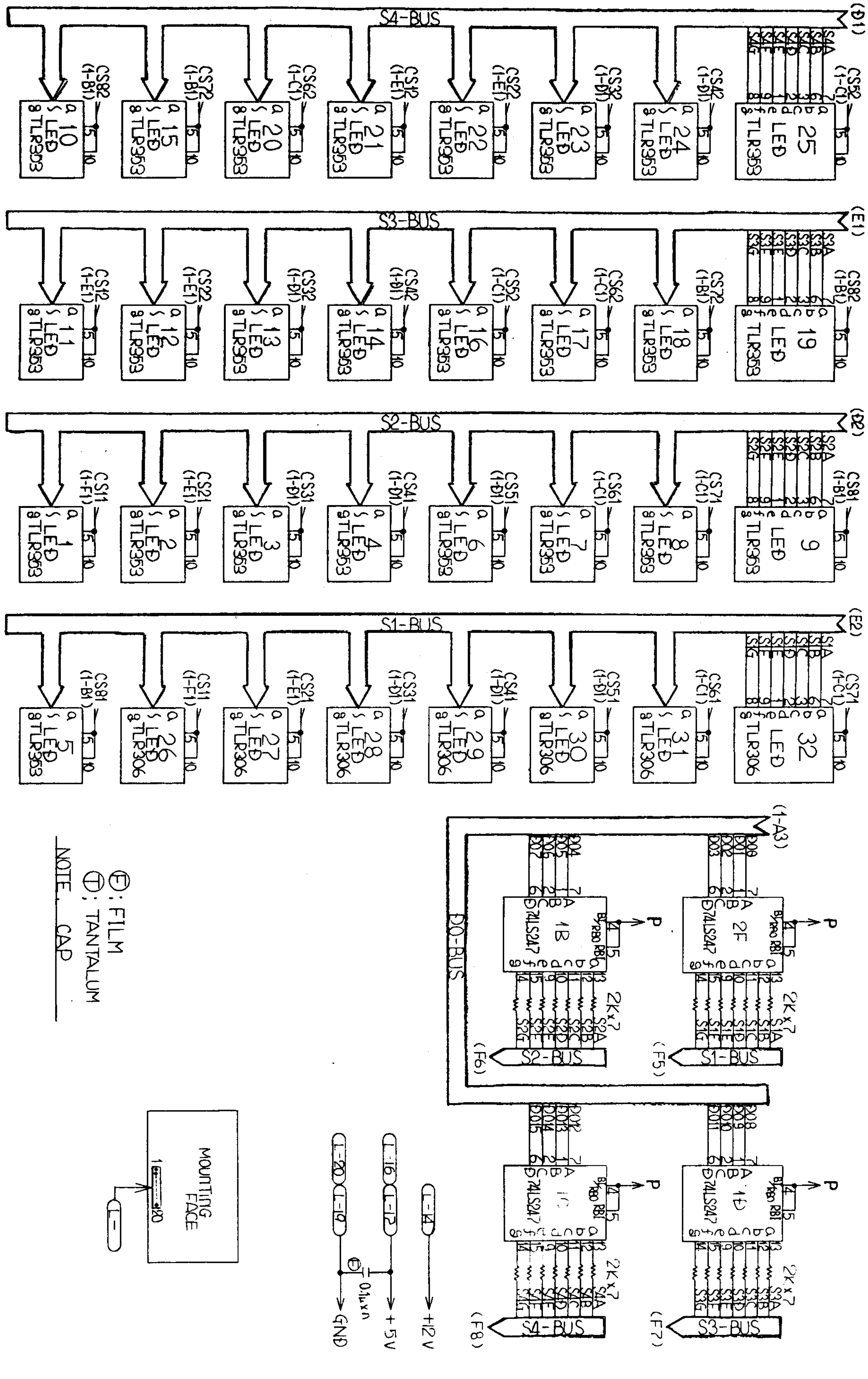
# TIME & SCORE PC BOARD SCHEMATIC 1 OF 2

**FIGURE 44**



# TIME & SCORE PC BOARD SCHEMATIC 2 OF 2

**FIGURE 45**



# WIRING DIAGRAM

## FIGURE 46

